DOCUMENT RESUME

ED 085 477 CE 000 472

AUTHOR	O'Neill, Dave M.
TITLE	The Federal Government and Manpower: A Critical Look at the MDTA-Institutional and Job Corps Program.
INSTITUTION	American Enterprise Inst. for Public Policy Research, Washington, D.C.
PUB DATE	Aug 73
NOTE	71p.
AVAILABLE FROM	American Enterprise Institute for Public Policy Research, 1150 Seventeenth Street, N.W., Washington, D.C. 20036 ($3.00)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Disadvantaged Youth; Educational Programs; *Federal Aid; *Federal Programs; Financial Support; *Manpower Development; *Program Effectiveness; Tables (Data); Training
IDENTIFIERS	*Job Corps; Manpower Development Training Act

ABSTRACT

The available evidence suggests the MDTA-Institutional program should be revamped with more reliance on the private sector for production and delivery of institutional training. In his review of eleven studies of Federal manpower programs, O'Neill finds that the MDTA-Institutional program, the oldest of the Federal training approaches, has apparently failed to raise the longrun earning capacity of its trainees. This program, he concludes, has not amounted to much more than an elaborate job-finding and applicant-screening program. On the other hand, the Job Corps seems to be the program which holds the most promise for the future. The author presents various reform possibilities suggested by the evidence, including voucher loans or grants for training applicants other than the hard-core disadvantaged. Statistical tables are given to illustrate the findings. The appendix contains summaries of the eleven impact studies surveyed. (Author/DS)

Evaluative Studies

THE FEDERAL GOVERNMENT AND MANPOWER

A critical look at the MDTA institutional and Job Corps programs

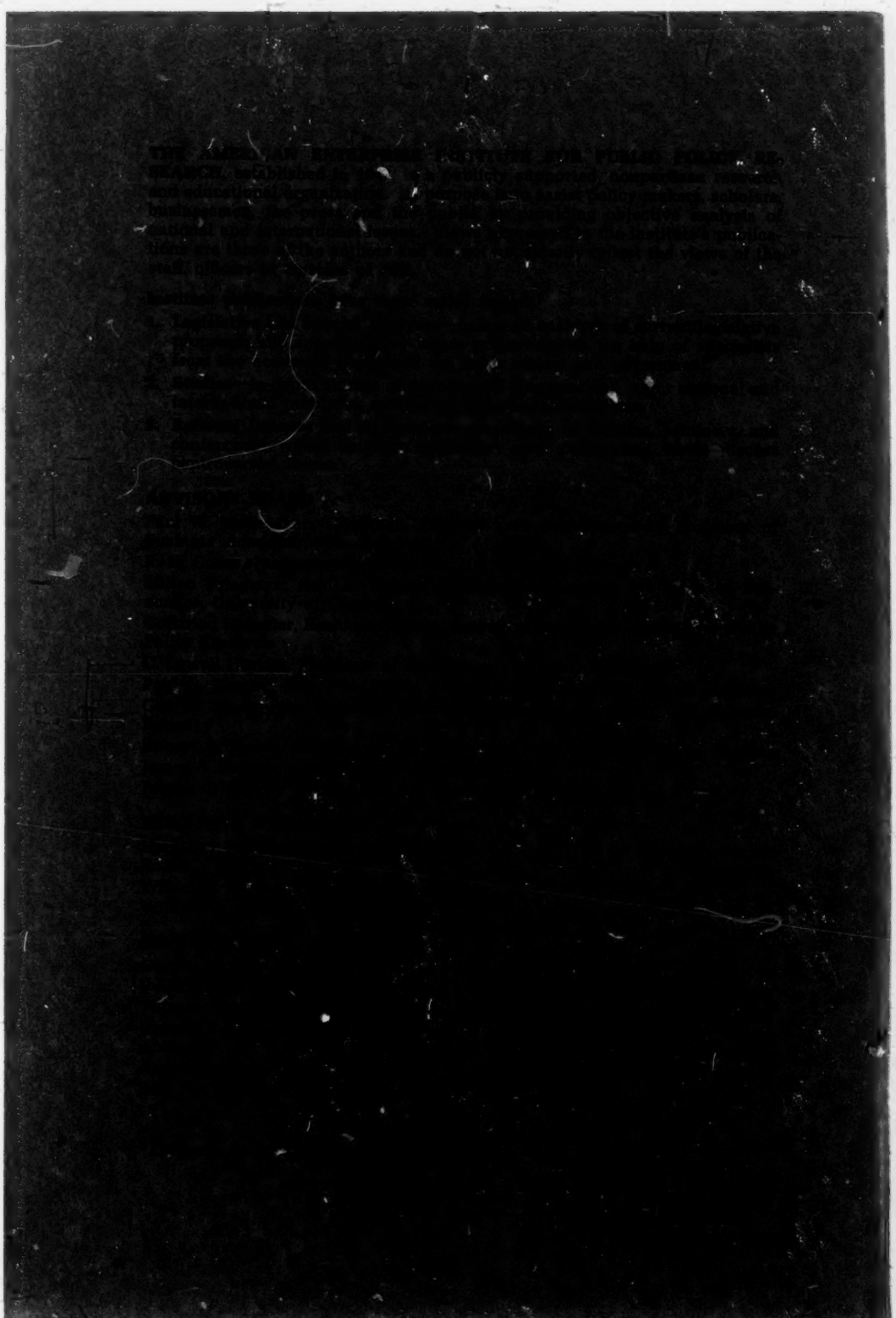
Dave M. O'Neill

ED 085477

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL HAS BEEN GRANTED BY
American Enterprise Inst. for Pub. Pol.R.
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

FILMED FROM BEST AVAILABLE COPY



ED 085477

THE FEDERAL GOVERNMENT AND MANPOWER

A critical look at the MDTA-Institutional and Job Corps programs

Dave M. O'Neill

American Enterprise Institute for Public Policy Research
Washington, D. C.

Dave M. O'Neill is director of human resources studies at the American Enterprise Institute for Public Policy Research.

Evaluative Studies 9, August 1973

ISBN 0-8447-3109-9

Library of Congress Catalog Card No. L.C. 73-86286

© 1973 by American Enterprise Institute for Public Policy Research, Washington, D. C. Permission to quote from or to reproduce materials in this publication is granted when due acknowledgment is made.

Printed in the United States of America

CONTENTS

PREFACE 1

I. SUMMARY OF FINDINGS AND CONCLUSIONS 3
General 3
MDTA-Institutional 3
Job Corps 4

II. MAJOR MANPOWER PROGRAMS 5
Training Programs 5
Job-Creation Programs 7
Proposed Fiscal Year 1974 Manpower Spending 7
Plan of the Study 8

III. THE MDTA-INSTITUTIONAL PROGRAM 9
Measuring Program Impact on Earnings 9
The Borus-Hardin and Smith Studies 11
The Main, Farber, and Prescott Studies 13
The Goldstein Study 19
Alternative Procurement Strategies 19
Suggestions for Organizational Reform 25

IV. THE JOB CORPS PROGRAM 28
Program Developments, 1968 to Present 28
Evidence on Overall Program Benefits and Costs 34
Implications for Policy and Future Research 46

APPENDIX 49

NOTES 61

PREFACE

A growing body of opinion among legislators, high-level administration officials, and social scientists holds that federal manpower programs have not, on the whole, been effective in achieving the objectives expected of them.[1] This negative reaction is reflected in the President's fiscal year 1974 budget,[2] which proposes that most of the categorical manpower programs be cut and that some of them be placed under the manpower revenue sharing concept.[3] Although some of the decisions on funding levels seem in line with evidence on relative program performance, other decisions (including those on which programs should be included in manpower revenue sharing) do not. It appears that specific program differences (in terms of both objectives and cost-effectiveness in achieving these objectives) are being overlooked.

One purpose of this study is to present information on the objectives, effectiveness and financing mechanisms of the various manpower programs. Hopefully this will provide useful input for current decisions affecting these programs as well as some insight into the probable effect of the manpower revenue sharing concept.

However, the major purpose of this study is broader and more fundamental than helping with current resource allocation decisions. It is to help provide the information and analysis required to provoke debate on the effectiveness of manpower programs compared to alternative approaches for achieving the same objectives.

I would like to thank my two former co-workers at the Center for Naval Analysis, Stanley Horowitz and Arlene Holen, for help, advice, comments, and insights into all aspects of manpower program evaluation. In particular, most of the material on the Job Corps program contained in this study was taken from a study I did jointly with Stanley Horowitz. [*The Job Corps: A Program Analysis and Evaluation* (Arlington, Va.: Center for Naval Analysis, 1972).] Al Fechter of the Urban Institute also made very helpful comments on an early draft.

For example, consider the general problem of post-high school skill acquisition. Unlike in the cases of the SST and other dramatic forms of physical capital, no extensive and systematic discussion of the comparative advantages of the private and public sectors in financing and producing this kind of human capital has developed as government participation has grown. Almost all evaluative studies of manpower programs have focused only on measuring the benefits and costs of the existing government programs. No one has raised the issue of what benefits *would be* generated by the same level of expenditures if they were administered in ways that reduced the administrative role played by government agencies and increased the role of private sector institutions. Moreover, there has been no coordination (or even interaction of any kind) between discussions of manpower training program organization, performance, and funding, on the one hand, and discussions of other federal programs that have similar objectives and purposes, on the other. In the latter category are, for example, the Educational Entitlements Program (GI Bill) for veterans, the federal grant-in-aid program for state vocational education systems, and the various student aid programs for education beyond the high school level.

A similar situation exists with regard to other problem areas where manpower programs have been used. Job-creation programs such as the Public Employment Program are usually discussed exclusively in terms of whether or not the unemployment level is high enough to justify their existence. Almost completely absent from the public debate is the question of the relative efficiency of the public employment approach versus alternative policy measures for mitigating the burdens of unemployment.

It is hoped that this study will contribute to a discussion of these issues and aid in evaluating the entire federal effort in the human resource area.

THE FEDERAL GOVERNMENT AND MANPOWER

I. SUMMARY OF FINDINGS AND CONCLUSIONS

General. The recent proposed reductions in funds and reorganization of two key manpower programs—MDTA-Institutional (established under the Manpower Development and Training Act of 1962) and the Job Corps—do not appear to be closely related to the evidence on the relative costs and benefits of these two programs and on the incentives facing trainees and administrators. In some respects recent budget and organizational decisions run counter to what the available evidence suggests might be the most effective investment of federal effort. This is particularly true of the relatively steep cutback in the number of Job Corps trainees and the decision to place MDTA-Institutional funds in the local revenue sharing channel.

MDTA-Institutional. The institutional program has had only short-run effects on increasing the earnings of trainees. It has helped to reduce the duration of unemployment associated with moving from one job to another. In effect, the MDTA-Institutional "training" program has not amounted to much more than an elaborate job-finding and applicant-screening program.

Good evidence of any significant effects on long-run earning capacity variables, such as hourly wage rate or occupational status, is lacking. Although some evaluative studies claim to have found long-run effects, others have not. However the quality of the studies unfavorable to the program is superior to those that are favorable. On balance the weight of the evidence appears unfavorable to the program.

Moreover, even if the higher benefit-to-cost ratios of the more optimistic evaluations were accepted, the virtual total reliance of

the program on public vocational education facilities to provide training means that *experience with how the private sector might perform in this role is totally lacking.* The benefit-to-cost ratios might turn out to be even higher if the government restricted its input to financing the training (perhaps via some form of voucher) and allowed the private sector to perform the training.

On the basis of a priori analysis of the incentives facing administrators and enrollees in the MDTA-Institutional program, more reliance on the private sector to produce and deliver training appears to offer significant potential for increasing benefits and reducing costs. For nondisadvantaged MDTA-Institutional applicants, there is no reasonable justification for the government to both finance and produce in-house, highly occupation-specific vocational-technical training that is generally available in private schools. A voucher-type approach for this group is strongly urged.

For the hard-core disadvantaged applicant, however, the government probably should do more than just finance training. It should also retain control over the entire training package, including supportive services. But even for the purpose of serving this disadvantaged group, the existing MDTA-Institutional training procurement system should be overhauled, shifting to, or at least experimenting with, the type of procurement system used by the Job Corps.

Revenue sharing, in the case of the MDTA-Institutional program, is unlikely to produce more rational allocation of resources among various types of training and occupational skills. Under the present so-called "categorical funding" system, local administrators already have considerable leeway in such decisions. The evidence surveyed indicates they are doing a poor job as it is. There is little reason to believe that they would do better with more discretion.

Job Corps. There is some (but not overwhelming) evidence to show that Job Corps experience has a positive effect on earning capacity and on attitudes of enrollees. Studies to determine the economic value of noneconomic post-program benefits, such as reduced crime rates and increased family stability, are needed.

Given a meaningful definition of costs per enrollee,[1] the Job Corps appears superior, in benefit-cost terms, to other possible approaches such as MDTA skills centers for training severely disadvantaged youth.

There is no evidence to show that the new Residential Manpower Centers, introduced in 1969 as an alternative to the rural Civilian Conservation Centers and so-called Urban Centers, have been more cost-effective than the latter two types of training facilities.

It would appear from the data that the funding levels for the male youth program are about adequate. However, the female youth program may well require increased funding. The administration's budget proposals for fiscal year 1974 severely downgrade the Job Corps, although it is the program which holds the most promise for disadvantaged youth.

II. MAJOR MANPOWER PROGRAMS

Before getting into detailed analysis of the MDTA-Institutional program and the Job Corps, it will be useful to try to place these two programs in perspective. To this end, a brief description of the major manpower programs and a discussion of the funding levels and organizational changes proposed in the fiscal year 1974 budget are set forth here.

The purpose of federal manpower programs has always been to help various distressed groups by improving their access to jobs and job-related services. Initially the situation was fairly straightforward with only one group being served—technologically displaced workers in depressed areas—and only one major type of program service being provided—skill training in formal classrooms. However, the situation has become much more complicated over time as a wide variety of distressed groups have come to be served, and a number of quite different program services developed.

Three agencies have been involved over the years: the Department of Labor (DOL), the Department of Health, Education and Welfare (HEW), and the Office of Economic Opportunity (OEO). At present almost all administrative responsibility is concentrated in the Manpower Administration of DOL. Perhaps the best way to sort out the various programs is via a brief historical narrative, during which we will develop a distinction between manpower *training* programs and manpower *job-creation* programs.

Training Programs. The earliest federally funded manpower training programs were initiated under the Area Redevelopment Act (ARA) in the late 1950s.[1] The major element of these programs was "institutional" training (that is, in a formal classroom rather than on the job) in various vocational-technical skills, combined with post-training relocation assistance (if necessary) and the job placement services of the local public employment service. As originally conceived, this early effort was aimed primarily at helping otherwise self-sufficient workers adjust to sudden large shifts in demand in specific labor markets.

In 1962, the federal manpower effort was reorganized by means of the Manpower Development and Training Act (MDTA). This act (including subsequent amendments) expanded the scope of manpower programs in two basic ways. First, the objective of the manpower training programs was broadened from just helping to train technologically displaced workers to include training in order to fill the "skill shortages" that develop in periods of prosperity and excess demand and to improve long-run earning capacity, especially of low-productivity disadvantaged workers. Second, program approaches were extended to include on-the-job training (OJT) as well as formal training in classroom situations. Provision was also made for giving classes in basic formal education whenever the worker's lack of preparation required it.[2]

As the pace of economic recovery mounted following the 1963 tax cut, the rate of unemployment began to fall more rapidly and the job situation of *non*disadvantaged workers in the labor force began to improve dramatically. With these developments, both general public policy and manpower policy focused more and more on the problems of "hard-core" disadvantaged groups, such as out-of-school and out-of-work youth and the growing number of female welfare recipients in the Aid for Dependent Children (AFDC) program. New elements were added to the MDTA-Institutional program in an attempt to better accommodate the most disadvantaged applicant.[3] Also, in 1968, the greater part of the MDTA-OJT program was redesigned into the "JOBS" program, which was then mandated to focus on the disadvantaged and to avoid "creaming" among applicants.[4]

In addition to these modifications of existing manpower programs, totally new programs began to appear in the mid-1960s. The Work Incentive Program (WIN) was established by the 1967 amendments to Title IV of the Social Security Act. (These amendments also sought to provide a direct work incentive by exempting one-third of earnings from the welfare payments deduction.) WIN's purpose is to provide a broad range of manpower and related services to recipients of aid under the AFDC program in the hope of increasing their earning capacities to self-supporting levels.

The Job Corps program for youth aged 16-21 was created by the 1964 Economic Opportunity Act. It was administered by OEO until mid-1969, when responsibility was shifted to DOL. Although disadvantaged young people had always been a major concern of manpower policy, the Job Corps program was especially designed to serve the most "disadvantaged of the disadvantaged." It is essentially a residential program aimed at removing youth from the

damaging effects of deprived family and neighborhood environments while administering basic educational and vocational-technical training services.

Job-Creation Programs. The Neighborhood Youth Corps (NYC) and Operation Mainstream (OM) were the earliest of the job-creation manpower programs. The Public Employment Program (PEP), authorized by the Emergency Employment Act of 1969, is the most recent addition to this category.[5]

In the NYC program young people are placed at "work sites" created by various local public and private nonprofit organizations. Under OM, older persons with records of very long-term unemployment are placed in jobs created by local government agencies with funds provided by the program. The jobs created must relate to beautifying the local environment in some way. Finally, under the PEP, surprisingly varied categories of persons (disadvantaged, veterans, unemployed aerospace workers, et cetera) are placed in public service jobs created by state and local government agencies. The federal funds received under PEP are not earmarked for specific kinds of public service as they are in the OM programs.

Proposed Fiscal Year 1974 Manpower Spending. Table 1 shows data on manpower program outlays from the President's fiscal 1974 budget message. It covers the program categories just described as well as some others that the Office of Management and Budget includes in its definition of the manpower sector.

On balance, for the entire manpower sector delineated in Table 1, the President's proposed fiscal year 1974 budget implies a cut of about 23 percent from the fiscal year 1973 level. Just how this overall cut would be distributed among the various categorical programs is clear in advance only for the federally administered programs not included in revenue sharing—PEP, Job Corps, WIN and JOBS.[6] For the others, actual funding levels are the combined result of independent allocation decisions made in numerous local planning units throughout the country.

Are the administration's proposed categorical cuts in line with relative program costs and benefits? How should local government officials allocate their revenue-shared funds among the various options at their disposal? How should they administer the various categorical programs they choose to fund? Can we expect the shift to manpower revenue sharing in itself to contribute to improvement in overall manpower program performance? This study seeks to help provide answers for these pressing policy questions.

Table 1

ESTIMATED OUTLAYS ON FEDERAL MANPOWER PROGRAMS BY TYPE OF PROGRAM, FOR FISCAL YEARS 1973 AND 1974
($ millions)

Program Category	Fiscal Year 1973	Fiscal Year 1974
Special Manpower Revenue Sharing (SMRS)	—	943
Training Programs		
MDTA-Institutional [a]	393	SMRS
Job Corps	177	111
JOBS	92	96
Veteran's OJT and other programs	260	287
JOBS Optional, Public Service Careers (CEP)	171	SMRS
Job-creation Programs		
Public Employment Programs	1,088	574
Neighborhood Youth Corps (all programs)	407	SMRS
Operation Mainstream	82	SMRS
Other specified job-creation [b]	61	SMRS
Other not specified	119	128
Work Incentive Program		
Training	320	381
Job-creation	70	102
Child Care (employment related only)	517	582
Vocational Rehabilitation	756	824
Labor Market Services	578	588
Program Direction, Research and Support	205	192
Total	5,296	4,808

[a] Includes institutional training under the Concentrated Employment Program (CEP).
[b] CEP and Public Service Careers.
Source: *Special Analyses of the Budget of the United States Government, Fiscal Year 1974,* Part 21, "Federal Manpower Programs," pp. 119-135.

Plan of the Study. The following sections present an evaluation of two institutional training programs, the MDTA-Institutional program and the Job Corps. Although these two programs are similar in that they both use formal non-OJT settings, they have strikingly different forms of administrative organization for relating national and local on-site program managers.

Section III deals with the MDTA-Institutional program. It reviews the traditional kind of evaluative evidence in this area—empirical follow-up studies that seek to measure program impact on lifetime earnings by utilizing various statistical control-group methodologies of one kind or another. An attempt is made to measure the cost-effectiveness of alternative procurement strategies,

relying almost exclusively on a priori analysis of the incentives facing program administrators and enrollees in the current program. The section concludes with a brief analysis of the possible benefits and costs to be derived from placing MDTA-Institutional funds in a revenue sharing pot.

Section IV deals with the Job Corps program. It sketches the nature of the program, analyzes significant internal developments and changes in recent years, and examines the existing empirical evidence on the overall impact of the Job Corps on post-program earnings and other characteristics of enrollees. Data on program costs are also presented and analyzed. An attempt is made to shed some light on the perennial question: Is the Job Corps really so costly relative to benefits produced as to have precluded its extension to a greater fraction of disadvantaged youth?

The study concludes by relating our findings to the Nixon administration's treatment of the MDTA and Job Corps programs in the fiscal year 1974 budget proposal.

III. THE MDTA-INSTITUTIONAL PROGRAM

Measuring Program Impact on Earnings. In this section we review and evaluate evidence bearing on the question: Has the MDTA-Institutional program had a significant impact on the post-program earning capacity of its enrollees? This is probably the single most important criterion for judging the program. Noneconomic post-program impacts of manpower training programs are always being stressed (for example, reduction in social costs associated with reduced criminal behavior of enrollees after they leave the program). But these are surely of less significance for the MDTA-Institutional program than they are for programs like the Job Corps and NYC, which focus almost exclusively on target populations with high pre-program crime propensities.

A significant earning capacity effect is a prerequisite for expecting the program to have significant impact on the various macro-policy variables of concern, such as the aggregate unemployment rate and the number of families in poverty. However, it is important to note here that the precise connection between a vocational-technical training program such as MDTA-Institutional and a macro-variable such as the aggregate unemployment rate is not as simple and direct as it might first appear.

The main point to recognize is that the program could be highly successful in terms of raising the lifetime earning capacity of the enrollees, and yet have little or no effect on measured un-

employment rates.[1] Suppose, for example, that the program worked, essentially, by enabling individuals to enter occupational areas paying a higher lifetime income than they would have obtained in their pre-training occupations (for example, from stock boy to automobile mechanic). Would this kind of occupational upgrading, essentially within the nonprofessional strata, be associated with higher employment stability? Maybe, but it is not obvious. Many high-paying technical and blue collar occupations are in industries that experience large cyclical, seasonal, and structural disturbances. There are also a lot of "dead-end" jobs which have stable demands (for example, grocery store clerk). One can argue that low-level occupations tend to be associated with chronic quitting (because of the boredom, et cetera), but there are important forces working in opposite directions and the net outcome on measured unemployment is not obvious.

This uncertainty disappears if we conclude that the programs have not raised earning capacity. The overall conclusion of our survey of the existing impact studies is largely a negative one: the program has probably not done much to raise post-program earning capacity.

However, a large subjective element must perforce enter into any kind of broad judgment such as the foregoing one. Set out below are the findings of existing research, including a brief critique of the conclusions of Jon Goldstein's recent survey study.[2] This is followed by an analysis of the program's administrative organization that does not rely on empirical measurement. It provides some complementary evidence as to why the MDTA-Institutional program provided no significant impact.

Ground Rules Guiding the Survey. Since its inception in 1962, the MDTA-Institutional program has been the subject of an avalanche of "evaluation" studies. In many of these, however, the term "evaluation" in the title refers to the problem of making sure that the local operating people actually running the program are in fact observing various rules, regulations, and guidelines set down by the federal administration in Washington. These management studies usually provide insight into the details of the administrative workings of the program.[3] But they do not shed much light on the overall performance of the program.[4]

There are, however, a substantial number of evaluations that attempt to measure the program's impact on the earning capacity of the individual participants. Although they vary tremendously in terms of quality of data and statistical methodology, all attempt to measure the change in the lifetime earning capacity of the average

program participant that is uniquely attributable to his participation in the program. In what follows, detailed descriptions and critiques are presented for five of the evaluation studies.[5] Two of them, the Borus and Hardin study[6] and the Ralph Smith study,[7] have been singled out because their findings have been disseminated and cited by supporters of existing manpower programs. Both report significant post-program effects on earning capacity, but both suffer from serious flaws in either data quality or statistical methodology.

The other three studies remaining from the total of eleven surveyed received the highest marks on the basis of two criteria employed here: (1) comprehensiveness and quality of data and (2) soundness of the statistical methodology used to control for the influences of "other factors" on the observed pre- to post-training period change in the earnings of program participants.[8] The most important "other factors" were aging and experience, changes in labor market conditions, and economy-wide trends in productivity.

The Borus-Hardin and Smith Studies. Although restricted to programs in Michigan, the well-known study by Borus and Hardin had a reasonably large sample of individuals (784, including 503 trainees and 281 nontrainees) and a very good experimental design in terms of sample selection and procedures used to obtain a similar comparison group of nontrainees. They used the "no-show" method in which individuals who signed up for courses and then did not show up were tracked down and used as a comparison group of nontrainees. In addition, Borus and Hardin obtained a large amount of information on each individual: earnings, employment status, and occupation prior to enrolling, relevant personal characteristics (age, sex, years of school completed, et cetera), and information on earnings in the 18 months following program termination.

Their major favorable finding was that *overall* (in other words, averaging all comparison groups between trainees and nontrainees) the program raised earnings by $216 (about 10 percent).[9] (We reproduce as Table 2 their Table 5 which compares the gross earnings change between trainees and nontrainees.) This favorable finding is not very reliable, unfortunately, because significant differences between the trainee and nontrainee groups exist. Nowhere in their study did the authors come to grips with these differences.

Their Table 4 (page 82 of their study) indicates that the no-show comparison group (the "nontrainees" in our Table 2) had higher average annual earnings for the year before the program ($366 higher) than did the trainees. The same table shows that the percentage who had jobs at the time of application was higher for the no-show group.

Table 2

AVERAGE GAIN IN ANNUAL EARNINGS
(1963-1966)

Class Length in Hours Per Enrollee	Average Gain in Annual Earnings			Sample Size	
	Trainees	Non-trainees	Trainees less non-trainees	Trainees	Non-trainees
60-200	$1,483	$ 657	$826	150	79
201-600	1,232	1,127	105	204	111
601-1,200	2,253	2,108	145	75	45
1,201-1,920	1,673	2,081	−408	74	46
All lengths	1,524	1,308	216	503	281

Source: Borus and Hardin, *Benefits and Costs of Retraining Courses*, p. 94, Table 5.

But, given that their pre- to post-period spanned a period of cyclical recovery, this is an extremely important difference to control for. We would clearly expect a greater *change* in earnings over this period for individuals who had become unemployed in the downturn than for those who had not.

Moreover, Borus and Hardin even present direct evidence in their own data for this "cyclical expansion effect." They present a multiple regression equation (see their study, page 113) which shows that for every dollar more of pre-program annual earnings, the gain in annual earnings (pre- to post-) was 72 cents less. If we multiply the nontrainee-trainee differential in the pre-program annual earnings level of $366 by .72 (=$263), we more than account for the difference of $216 in the average gain reported in their Table 5.

One can go through the Borus-Hardin study with a fine-tooth comb and not find a straightforward multiple regression equation in which a simple dummy variable is used to designate trainee-nontrainee status and which also includes a variable measuring the level of pre-program earnings (with the change in annual earnings pre- to post- the dependent variable). The one multiple regression equation they exhibit in the text contains only *interaction* dummy variables that seek to estimate how the effect of the program *varies* with age, sex, length of training course, et cetera. The reader is left to accept on faith that when a "simple" (noninteraction) multiple regression is run, the training status dummy variable will show a net coefficient on earnings gain of approximately $216.

This is too significant an issue to accept on faith, especially when one notes that the other main finding of the Borus-Hardin study, which is also illustrated in Table 2, is that the amount of

the program's effect *falls* with increased length of training course attended. The authors devote much of their study to trying to rationalize this perverse finding. Thus, despite their widespread citation, the findings of the Borus-Hardin study are highly suspect.

Ralph Smith's study also concluded that MDTA-Institutional had a significant post-program effect. Smith's study is cited by Jon Goldstein in his survey study as the most reliable of all the nationwide studies.[10]

Smith's study contains no original survey data. The only data is the regularly published, internal program data on the employment status of former enrollees six months after termination. This data set is limited to completers and also contains pre- to post-program wage rates for a very select group of those completers—those who *were employed* at the time of a mailed follow-up questionnaire. Excluded are all noncompleters and those completers who were either unemployed or out of the labor force at the time of the follow-up. His method of estimating what the pre- to post-period change in wage rates of the trainees would have been in the absence of training is to assume that it would have equalled the observed percentage change in average gross hourly earnings of nonagricultural employees (6.3 percent in 1968).

A number of other nationwide evaluative studies, similar to Smith's, also did not obtain any detailed data on comparable groups of nontrainees.[11] These studies are somewhat more reliable than Smith's in that they have much more comprehensive coverage of program participants. However, the basic problem with not having detailed information on a comparable group is that there is no reason to expect that the temporal pattern of earnings change for some atypical group like MDTA enrollees would be similar to some broad aggregate like average hourly earnings of all civilian wage and salary workers. There are many reasons, however, to expect that the cohort specific pattern would be much more volatile over time. The effects of factors like age change, location change, industry change tend to cancel out in the aggregate figure.

The Main, Farber, and Prescott Studies. Each of these studies used a data base which covered MDTA-Institutional program operations throughout the country. They also had explicit data on groups of individuals who were similar to the trained group in many respects, but who did not participate in the MDTA program.

The Main study, which was the first of the three to be completed, has richly detailed data on all aspects of earning experience during the post-program period (wage rates, employment rates, and type

of occupation). It also uses the best statistical methodology for collecting data on a comparable group and then running multivariate analysis to control for residual differences between trainees and nontrainees. However, it suffers somewhat from having a follow-up period of only one-and-a-half years.

The Farber study, which covers trainees in both 1964 and 1968, has extensive coverage for the time dimension—five years of pre-program earnings and five years (for the 1964 trainee group) of post-program earning experience. However, it differs from the Main study in that only the limited earnings information in the Summary Earnings Record (SER) file of the Social Security Administration (SSA) was available to him (in other words, he cannot distinguish wage rates and employment rates). Farber's statistical methodology for implementing the experimental control comparisons is much weaker than Main's. The Prescott study, which also used SSA data, had better comparison group data than that used by Farber, but fewer years of pre- and post-program earning experience and the control group-trainee group comparison is marred by lack of complete control for differences between them.

The Main Study. Main's survey, which covered trainees who enrolled in the MDTA-Institutional program during fiscal year 1965, was the first nationwide follow-up evaluation of the program. He interviewed 1,197 previous trainees in forty-nine sample areas throughout the country. Data on post-program wage rates, employment experience, and occupations were obtained for both these trainees and a comparison group of 1,066 nontrainees. The comparison group was built by the "snowball" method, under which each individual in the trainee group is asked for five or six names of peer-group friends. This list is then used to obtain a sample of similar individuals who did not participate in the program.

Main is very explicit in pointing out that this snowball method, although probably yielding a similar group, is still nonexperimental. Furthermore, significant differences in characteristics relating to earning capacity can exist between trainees and nontrainees. In order to adjust for these possible differences, Main applied standard multiple regression techniques to his 2,258 individual observations.[12]

Separate multiple regressions were used to measure the effects on wage rates and on employment rates. As we mentioned above, distinguishing these two components of the earning impact is important in order to conjecture how far into the future to extrapolate the observed earning differentials. Employment rate effects without concomitant wage-rate effects are likely to be short run and probably would not persist much beyond the immediate post-program period.[13]

Main's key finding was that his multiple regression analysis, in which differences between trainees and nontrainees are controlled, showed no statistically significant effect of the program on wage rates. However, he did find a significant program effect on employment duration: a net effect of 15 percent for the months employed full time during the post-program period.

Finally, Main found that when he analyzed the effect of *differences* in length and type of training *within* the trainee group, he could not isolate any *differential* effect. This finding, in conjunction with that of no wage-rate effect, led Main to a pessimistic conclusion about program impact.

The Farber Study. This study covers two groups of trainees: all those attending during two calendar years, 1964 and 1968. Earnings information from the SSA's SER file was obtained for a five-year period prior to training for both groups, for a five-year post-training period for the 1964 group, and for a two-year post-training period for the 1968 group. The SER file provides earnings information on all individuals who worked in covered employment. In the SER file a single amount is reported for the year, and only covered earnings up to the maximum taxable under Social Security are reported. The only clue to employment duration in the SER file is that given by a code which shows whether the individual had $50 or more of taxable earnings in a quarter.

The SER file essentially provided Farber with estimates of total annual earnings for all the MDTA trainees who had covered employment during the pre- and post-training experience.[14] Farber then selected a comparison group from the SSA's 1 percent Continuous Work History Sample (CWHS) file. This file contains much more detailed quarterly earnings information and also allows for identification of the individual's age, race, and sex. Farber attempted to make his comparison group similar to his trainee group by matching them on age, sex, color, and both the level and pattern of reported annual earnings during the five-year pre-program period.

Farber then computed changes between pre- and post-periods in the average annual earnings of both the trainees and the comparison group. Then the *difference* between these changes (trainees minus nontrainees) was computed as an indicator of the program's long-run impact on earnings. These differences are shown in Table 3.

Thus, only for females in the 1964 group is the *direction* of the effect even favorable. If one accepts Farber's data and methods, one would conclude that the MDTA-Institutional program is having, on the average, no effect on the long-run earning capacity of the program participants.

Table 3

ABSOLUTE DIFFERENCES BETWEEN CHANGES IN AVERAGE ANNUAL EARNINGS FROM PRE- TO POST-TRAINING PERIOD

(Trainees minus nontrainees, by sex and color)

	Male		Female	
	White	Black	White	Black
MDTA-Institutional, 1964	−$252	−$ 8	$ 16	$164
MDTA-Institutional, 1968	− 756	− 372	− 368	− 364

Source: Farber, "Changes in Earnings of Participants," internal staff paper of the Manpower Administration.

Farber's data and findings have stirred considerable controversy, and it is important to point out the more obvious areas for reasonable dispute. One very important problem with the data, as originally presented by Farber, relates to the limited amount of information on personal characteristics available to him on the CWHS file. He could only "match" the comparison group to trainees on age, sex, race, and level and pattern of earnings in the pre-training period. This might appear, at first, to be a fairly good control group procedure. However, if one focuses only on the age group that would have been in the formal school attendance age range during the pre-program five-year period (in other words, January 1958–December 1963), then it becomes apparent that a serious source of bias *against* finding an effect is at work in Farber's data. While individuals are enrolled in school, their reported earning levels and changes in levels will be far below their long-run patterns. But, Farber uses pre-program-period reported earnings to select his "matched" comparison group. Thus his methodology implicitly assumes that, as groups, both MDTA participants and the individuals in the CWHS file have the same educational attainment levels. But surely this is not a valid assumption given the general socioeconomic background levels of MDTA enrollees.

It is highly likely that Farber's "matched" group for this specific age group contains more educated individuals than his trainee group does. But these individuals would be expected to have much higher rates of growth in earnings from pre- to post-program periods than the trainee group would, both on account of their greater investment in human capital and natural ability.

Is this source of bias strong enough to turn Farber's finding of no effects into one of positive significant effects of MDTA-Institutional training? Preliminary results of a reanalysis of Farber's data,

in which the pre- to post-period change in earnings comparison was restricted to those individuals who were old enough in 1964 to be beyond the formal school age range during 1958-1963, still showed no effect of institutional training.[15]

Another, perhaps more serious problem with Farber's method of selecting a comparison group is related to the way individuals apply and are selected for the MDTA-Institutional program. In 1964, before the Manpower Administration's 1966 directive ordering that 65 percent of the slots be filled with "disadvantaged" individuals, the selection criteria for allocating slots to individuals was that they be "unemployed or underemployed." MDTA section 202, part (d) states that:

> Although *priority* in referral for training shall be extended to unemployed persons, the Secretary of Labor shall, to the maximum extent possible, also refer other persons qualified for training programs which will enable them to acquire needed skills. Priority in referral for training shall also be extended to persons to be trained for skills needed within, first, the labor market area in which they reside, and, second, within the State of their residence. (Emphasis added.)

Given this situation, it creates the possibility that Farber's comparison group contains, *within* an age, sex, color, pre-program-period earning level, and pre-program-period earning pattern group, a somewhat lower percentage of individuals who have just experienced serious job loss situations than in the trainee group. Some analysts think this is a strong possibility. Others do not feel as strongly about the likelihood. It could be that, on the average, over the ten-year pre- to post-period, the number of spells of involuntary unemployment experienced per individual is about the same in the trainee group and in Farber's comparison group. Only additional evidence can be convincing on this point.[16]

The Prescott Study. Prescott's study, like Farber's, is based on the idea of linking program data on trainees with information on their pre- and post-training period earning experience contained in the Social Security files. Prescott's sample of trainees went through the program during 1968. He obtained Social Security data on their 1966 (pre-program) reported earnings and on their 1969 and 1970 earnings (post-program).

Prescott appeared at first to have made a significant improvement over Farber in that the source of his comparison group was the Manpower Administration's enrollee files. These are rich in personal characteristics data. Prescott identified individuals who

(1) had applied for the MDTA-Institutional program, (2) had been assigned a particular training slot and had expressed a desire to participate, and (3) either had not shown up at all ("no-shows") or had dropped out after the first few days.

These no-shows and very early dropouts formed Prescott's nonenrollee comparison group. Prescott then made a comparison of the average change in reported earnings (pre- to post-program periods) between the enrollee and nonenrollee groups. Before making this comparison, Prescott selected his enrollee and nonenrollee groups so that they were matched on the following characteristics: age, sex, color, family status, geographic locale, occupation, skill, and training. However, somewhat inexplicably, he did *not* match on either years of formal schooling or on pre-program earning level.

Table 4 presents Prescott's data on the earnings of MDTA-Institutional enrollees and nonenrollees in the pre- and post-program periods. Note that the level of pre-training earnings of enrollees is about 14 percent higher than nonenrollees. Interestingly, this is just the opposite of the situation found in the Borus-Hardin data, in which the no-show group had higher pre-program earning levels. I think the explanation for this difference is that the study periods occurred at very different stages of the economic cycle. Prescott's pre-program period was at the end of an expansion, while Borus and Hardin's was at the beginning of one. If we think of the "potential" no-show group as being distributed along an ability scale, then it is likely that at the beginning of an expansion the more able ones would have more tempting job offers, while the less able would have to "wait" (to become "actual" no-shows) until the end of the expansion when labor shortages become acute and employers lower hiring standards.

Table 4

ESTIMATED AVERAGE ANNUAL EARNINGS OF 1968 MDTA-INSTITUTIONAL MALE ENROLLEES AND NONENROLLEES

	Pre-training Period, 1966	Post-training Period	
		1969	1970
Enrollees	$1,740	$3,357	$3,119
Nonenrollees	1,520	2,487	2,409

Source: Prescott and Cooley, "Evaluating the Impact of MDTA Programs," p. 4, Table 1.

The direction of the bias created by the dynamics of the economic cycle in the Prescott situation is directly opposite that of the Borus-Hardin situation. Prescott's pre-post period spans a cyclical contraction in which the least able groups tend to suffer more than proportionately (just as they gain more than proportionately in an upswing). Thus we would expect Prescott's comparison group to have shown a smaller increase in earnings than his trainee group even without the program having an effect.

Clearly what is needed is for Prescott to rerun his data, use more appropriate statistical techniques, and hold constant the level of pre-program earnings in making his comparisons.

The Goldstein Study. Jon Goldstein of the Joint Economic Committee staff recently completed a staff study on the effectiveness of manpower training programs. In the section of his survey relating to MDTA programs, Goldstein concludes, broadly speaking, that the MDTA-OJT program is probably better than the MDTA-Institutional program. but that the institutional program is probably not so bad either. Since his conclusion about the institutional program is definitely more optimistic than that reached here, we have attempted to find the source of the different conclusions. Of the nine evaluative impact studies of MDTA surveyed by Goldstein, five are surveyed here. With this much overlap in sources of information, finding the reasons for the differences became even more imperative.

From the way Goldstein evaluates the findings of the five studies considered here, all that can be said is that he has neither read them carefully nor bothered to analyze the quality of their various statistical methodologies. For example, as noted above, he referred to the Smith study as the "most reliable" of the comprehensive evaluation studies. In the next sentence he refers to Main's study as having a control group that was collected in a rather "unorthodox manner."[17] What he appears to imply is that Smith's study is more reliable than Main's. But this is a poorly substantiated assessment of the relative worth of these two studies. Goldstein also accepts the Borus-Hardin findings uncritically. All in all, his conclusion about the MDTA-Institutional program is not supported by most of the studies he cites.

Alternative Procurement Strategies. Economists are usually the first to stress the important influence which personal incentives of decision makers have on the efficiency of resource allocation within any organizational structure. Surprisingly, none of the economists mentioned above offers an analysis of the cost-effectiveness of alter-

native organizational incentive structures for achieving the basic objective of the institutional program—which is to embody as much human capital as possible in various target groups of individuals.

Given the generally pessimistic conclusions suggested by the impact evaluation studies, one may well inquire whether or not the institutional program should shift its organizational structure so as to reduce the administrative role played by government agencies and increase the role of private sector institutions. For example, would a given amount of MDTA dollars be more effectively used by offering program applicants vouchers to spend at any one of a wide range of schools (approved for these purposes) which already provide such training?[18]

Direct objective evidence on this issue could be obtained from follow-up studies, using control groups of enrollees in private vocational-technical schools similar to those we have surveyed for the government-run programs. Unfortunately, such evidence is not available at the present time.[19] As a poor substitute, we can only offer an a priori analysis of the incentive structure confronting enrollees and administrators under the current organizational structure of the program. This incentive structure can then be compared with the one that would obtain under the voucher-type arrangement described above. In addition, some thoughts are offered on the wisdom of the manpower revenue sharing concept readied by OMB for implementation in fiscal year 1974.

Incentives of Enrollees. One might well ask after reading the foregoing findings: Why, if the program does not raise earning capacity, does anyone waste his time attending it? The answer is simple. The individual enrollee receives relatively generous training allowances as long as he stays in the program. MDTA so structures the computation of training allowances that an unemployed person eligible for unemployment insurance benefits can both extend the duration of his benefits and increase the weekly amount received by enrolling in a MDTA-Institutional slot.

For example, take the case of an individual who is collecting below-average unemployment benefits in his state and who is about to exhaust his benefits. Under MDTA-Institutional, he can collect a basic weekly training allowance equal to the average weekly unemployment insurance benefit payment made in his state in the recent past (where this average is computed to include the extra benefits allowed for dependents) plus a supplement determined by the number of his dependents.[20] These training allowance payments continue as long as he is enrolled in good standing in the program. Moreover, if an individual is collecting above-average unemployment

benefits, he is not penalized if he enrolls in the program. He receives a basic training allowance equal to his benefit level (plus supplements) for as long as he is eligible for benefits. Once his benefit eligibility runs out, however, his basic training allowance reverts to the average state payment level for as long as he continues in the program.

In addition, the training allowance for unemployed persons ineligible for unemployment insurance benefits and for low-wage workers in general clearly represents some incentive to enroll (and to stay enrolled) in a program even though the individual might well perceive little or no future earning capacity effects. Just how strong an incentive the allowance provides is difficult to determine precisely. But it clearly increases the probability that too many resources will be allocated to the vocational-technical training sector vis-à-vis other ways of adding to output growth in the economy.

Would the efficiency of the incentive structure facing program applicants be any better if the program shifted to a GI Bill voucher-type procurement system? In terms of the division of the economy's resources between vocational-technical training and other sectors, the answer is probably not. If the effective allowance were the same (in other words, if after subtracting full tuition costs the individual had the same amount left over for his living costs), then the individual still would not be bearing the full cost of training, so incentives for prolonging his enrollment would remain.

On balance, however, there would probably be a net improvement in resource allocation because, under the voucher-type scheme, the applicant has a much greater incentive to participate in behavior that will help to improve resource allocation *within* the vocational-technical sector. Under the current procedures, the individual trainee cannot exercise very much discretion as to what he is to study or what school he attends. He confers with an employment service counselor and program coordinator who try to match his aptitudes and desires with a set of available offerings. The set of occupational offerings is determined at the beginning of the year by a fairly centralized planning body that is usually made up of state employment service administrators, local labor union officials, and representatives of assorted nonprofit agencies who help administer manpower programs at the local level. Under a voucher-type scheme, applicants would be in a position to "help" find occupational areas in short supply. They would have access to informal channels of information on quality of training not available to administrators of public programs. These informal channels (student to student, student's family to other families, et cetera) tend to be very efficient

at conveying information about the intangible aspects of different schools (for example, do they really get you into a career growth occupation). They would be harnessed to replace the cumbersome formal management information system now used by central administrators for program monitoring and evaluation.

Incentives of Program Administrators. MDTA contains very explicit language assigning detailed responsibility to DOL and HEW for both selecting the skills for which training is to be offered and for actually producing the training. DOL, through its network of state and local employment services, determines which occupational areas will be focused on and what individuals will be assigned to what courses. HEW, through its network of appropriate state educational agencies, responds to the employment service requests for courses in specific vocational-technical areas by providing teachers, classrooms, equipment, et cetera, for the most part located in local public vocational schools.

Until 1964 almost all MDTA-Institutional training involved "class-size" projects encompassing one occupational skill, and conducted almost exclusively in public vocational education schools. The *Manpower Information Service Reference File* (Bureau of National Affairs publication) describes the situation then (circa 1964) in the following words:

> The availability of these schools was a constant problem. Since they were already in use during prime time with regular educational offerings, MDTA training frequently had to be conducted on a 4 p.m. to midnight or similar shift. Occupational offerings were limited by lack of modern equipment in these schools. Furthermore, trainees had little occupational choice. Choice was frequently governed by the next available class.[21]

However, starting in 1964, this picture was modified somewhat by the emerging concept of the "skill center" approach to the MDTA-Institutional delivery. In 1968 Congress amended MDTA to include explicit promotion of the skill center concept. The official definition of a manpower training skill center as issued by DOL and HEW is as follows:

> A centralized self-contained facility, operating on a full-time, prime-time basis, generally under public school administration, especially designed to provide on a continuous basis, counseling and related services, work orientation, basic and remedial education, and institutional skill training in a variety of occupations for trainees recruited from a broad area. The center provides maximum use of physical

> and instructional resources and a high degree of flexibility, serving all types of trainees and all types of MDTA projects, including multi-occupational and single projects, individual referrals and classroom components of On-the-Job Training projects.
>
> This definition is designed to distinguish between simple multi-occupational training programs—such as would be found in a vocational school offering clerical or automotive training in four or five different occupations—and the more comprehensive offerings of the Skill Centers.[22]

The skill center approach, although it may provide more "flexible" and "continuous" training, is very inflexible and costly when it is required to adjust to fluctuations in MDTA applicant flows from year to year. Class size projects, whatever else their faults, do make the economic dovetailing of fluctuations in public vocational education demand and MDTA demand possible. At this writing the class project approach is still the major variant within the program.[23]

What is the nature of the personal incentives confronting the various state employment service and state vocational education administrators, the people who influence the choice of occupational skills to be offered, assignment of trainees and course curricula? Will those administrators who produce the best program output—that is, the largest post-program effect on earning capacity per dollar spent—be rewarded the most? A brief look at how administrators in Washington allocate institutional program funds and monitor program performance in the different states leaves one with the impression that the correlation between actual quality of program output and personal reward, although it may be positive, is probably weak.

Each year the program planning and budgeting people in the Manpower Administration decide (with the consent of OMB and Congress) how much to allocate to the MDTA-Institutional program as a whole. The greater part of this total amount (80 percent) is then allocated among the states according to a standard formula that is derived from specific provisions of MDTA. The provisions relate to factors like labor force size, share of unemployment, et cetera.

Although this rigid formula approach can also be analyzed in terms of the equity of its allocation rules,[24] the main point is that it ensures that at least 80 percent of the funding is guaranteed for the next year, *regardless* of the quality of program performance in a state.

The discretionary 20 percent does give the central administrators some leverage to reward or punish different quality performance.

However, the issue then becomes one of how well the Manpower Administration in Washington can monitor and measure quality of program performance as we have defined it above. Anyone with any experience with the administration of a far-flung program like MDTA-Institutional knows that administrators in Washington must rely, in practice, on very indirect and gross indicators of relative program performance. The reported placement rate tends, for instance, to be utilized as one indicator. This puts pressure on local administrators to maximize reported placements—even at the expense of the actual quality of their programs' ultimate output.

Experienced program administrators are well aware of the limitations of these indirect indicators. The result is that the level of actual monitoring and policing tends to be minimal.

One might still argue that in spite of the drawbacks of a bureaucratic environment, dedicated and able administrators can somehow select the "correct" occupations for training and provide high quality training in spite of the lack of personal incentives to do so. A recent skills shortages study by the Olympus Research Corporation (ORC) gives cause for doubting this line of argument. ORC attempted to learn whether institutional training was being done in occupational areas troubled by relatively short supply. In the words of the authors: "We concluded that, at least for the period of time encompassed by the study, no significant impact upon skills shortages can be identified." [25]

The question now is whether the incentive structure that confronts those who will make the same resource allocation decisions under a voucher scheme is likely to be any more conducive to efficient resource allocation. Since the private vocational-technical school industry appears to be highly competitive, the market mechanism should operate fairly efficiently in rewarding the entrepreneurs whose schools were selecting the right skills to offer, and vice versa for those lagging behind in their offerings.

This does not mean of course that in practice all private schools will produce training that is highly relevant and productive. This would only be the case if the market was *perfectly* competitive, and students were themselves paying for the training rather than spending government vouchers. As long as *some* students utilize the program simply to collect the training allowances, there will be incentives to set up "bogus" schools that primarily serve the function of obtaining the weekly allowance for the enrollees. Good approval and policing practices on the part of the Manpower Administration will be required to minimize these effects.

Suggestions for Organizational Reform. Clearly the foregoing type of analysis, by itself, can never be fully convincing. One might still sincerely ask: if the GI Bill voucher-type method is so much more efficient, then why did not the government adopt this approach for the MDTA-Institutional program? A serious answer to this question would surely contain a complex mixture of true concern, paternalism, and bureaucratic self-interest. Nevertheless, when we consider the disadvantaged ghetto youth—bitter, lonely, without a modicum of information about the job market—offering him a vocational-technical voucher and hoping he will make use of it does not appear to do enough for the situation. For the hard-core disadvantaged (especially for the young disadvantaged), the government probably has to do more than just finance training. It probably should also try to maintain some explicit control over the provision of the actual package of services. This will enable the program to compensate for the severe lack of motivation and information that is holding these young persons back.

A good procurement model for this situation is the one used by the current Job Corps program (which is evaluated in detail in Section IV). Under Job Corps, private companies bid for contracts to run complete Job Corps centers. Details of hiring personnel, motivating the youngsters, and selecting the occupations for vocational-technical training are left to private companies.[26] The Job Corps administrators check and oversee the operation from time to time. All in all, it would appear very worthwhile to start applying this Job Corps procurement concept to part of the MDTA-Institutional program.

In brief outline, this is how the administration of the entire MDTA-Institutional program should be revamped. First, the program slots being filled with only slightly (or non-) disadvantaged applicants should be administered as a sliding-scale, vocational-technical entitlement program. Individuals would receive either a voucher loan or a voucher grant, depending on the applicant's earning capacity on the last job. The amount of interest on the loan could also be scaled to earning capacity.

Second, for the program slots filled by moderately to hard-core disadvantaged, the direction should be toward private companies which contract to run nonresidential, skill center operations similar to the Job Corps program arrangement. The same companies that run the Job Corps centers would be likely candidates to run the urban nonresidential skill centers.

Table 5 shows the distribution of trainees enrolled in institutional programs by various personal characteristics. These figures

Table 5

CHARACTERISTICS OF TRAINEES ENROLLED IN MDTA-INSTITUTIONAL TRAINING PROGRAMS, FISCAL YEAR 1971

Characteristic	Percentage Distribution
Age	
Under 19 years	13.8
19 to 21 years	26.1
22 to 34 years	40.2
35 to 44 years	11.4
45 years and over	8.5
Years of school completed	
Under 8 years	5.4
8 years	7.0
9 to 11 years	36.2
12 years	45.4
Over 12 years	6.0
Years of gainful employment	
Under 3 years	46.1
3 to 9 years	35.2
10 years or more	18.7

Source: U.S. Department of Labor, *Manpower Report of the President* (Washington, D. C.: U.S. Government Printing Office, 1972), p. 265, Table F-5.

give a rough idea of how the program would divide into the above two procurement strategies. About 30 percent, at a minimum, of the institutional program probably could be put on a voucher basis, corresponding roughly to the higher education and work experience categories in Table 5.

Manpower Revenue Sharing—Will It Improve Resource Allocation? Over the past few years more and more attention and interest have been focused on the idea of revenue sharing among the federal, state, and local governmental units as a means of improving governmental programs. The basic idea is to give state and local governments control over more "fungible" pots of resources than they now have under the categorical funding system. For example, "manpower revenue sharing" means that a state government would receive so many million dollars for the general category of "manpower programs," instead of having specified parts of that amount earmarked by federal manpower administrators for the various categorical programs. State and local government manpower administrators would then have the authority to allocate amounts to the various programs as they saw fit.[27]

The arguments put forth in favor of this approach tend to be unrigorous in terms of setting out behavioral assumptions. Local government officials, it is usually argued, have access to more and better information about local needs and conditions than do federal administrators. It is assumed, therefore, they will be able to allocate funds among the various program approaches in a more rational fashion.

The argument stresses availability of information as the key factor influencing resource allocation decisions among governmentally funded programs. There is no doubt something to this notion, but it would appear to overlook completely the role of the other important force influencing resource allocation within complex organizations: *personal incentives*. It is not at all obvious, as we move from federal, to state, to local government units, that the personal incentives of the administrators would more likely result in federal tax dollars producing the greatest good for the greatest number.

The major reason for believing that revenue sharing is moving incentives in the wrong direction is that as we shift *authority* for resource allocation decisions from federal to local levels, we are not simultaneously shifting the *responsibility* for raising taxes to locally elected officials. All we do is create more levels of responsibility between the taxpayer and the ultimate person of concern, the disadvantaged individual. Thus the local officials will still have to look over their shoulders at the federal officials, for these officials (via their tax raising authority) still retain authority over them.

The author's feeling—not based on any systematic empirical research—is that manpower revenue sharing will tend to make things worse rather than better. This judgment is based on two casual observations. One is that under the present categorical funding, local administrators still have a lot of leeway. For example, they are given the authority to choose which occupation within the MDTA-Institutional program to train for and which type of school to provide the training. The evidence surveyed above indicates that they are doing a poor job with this small amount of discretion. Why should things get any better by giving them more?

The other observation is related to the performance of the Title I program of the Elementary and Secondary Education Act (ESEA). This federal program has been in existence for a number of years and comes close to being a pure, educational revenue sharing operation. Local school districts are allocated federal funds to help with the education of the disadvantaged children in their systems. The evaluative literature on this program forces one to conclude that

it has been an organizational nightmare. Although good comprehensive documentation of the specific kinds of resources purchased with Title I funds does not exist at present, there are definite indications that large chunks of these funds have been used to help children who are not from disadvantaged backgrounds.[28]

Actually, this discussion of revenue sharing suggests a good argument for shifting to a voucher approach—which represents the lowest level of revenue sharing possible. The voucher approach would produce a maximum of the beneficial information effect and a minimum of the perverse layers of responsibility effect.

IV. THE JOB CORPS PROGRAM

Program Developments, 1968 to Present. In sharp contrast to the MDTA administrative approach, the Job Corps has always relied in large part on the private sector for the actual delivery of program services. At present, about 60 percent of the program is in centers run by private firms under cost-plus fixed-fee contracts made directly with federal program administrators in Washington.[1] The state employment and vocational education agencies have exerted no administrative authority over the Job Corps program. Moreover, Job Corps funds are not apportioned among the states according to some prescribed legislative rule, as is the case with the MDTA-Institutional program. Federal program administrators try as much as possible to locate centers and enrollees on the basis of maximizing program effectiveness (for example, putting the center in a "nice" setting and screening enrollees for capacity to resist homesickness, thus minimizing the number of early dropouts). Indeed, the Job Corps centers located in many of the rural states are serving many disadvantaged youth from more heavily urbanized states.

From its inception the Job Corps has been controversial. Like all training camp institutions, the corps has had the problem of maintaining good community relations where it locates its centers. In addition, the press has always been keen for publicizing the inevitable "incidents" that occur (or are claimed to occur) in centers from time to time. Finally, and perhaps the most fundamental reason for the criticism, the Job Corps has always placed a heavier burden on the budget (per enrollee) than any of the other youth-oriented manpower programs. Given the comprehensive nature of the services provided this is to be expected. But its "expensive" reputation has placed a heavy burden of proof on the Job Corps to show that the extra benefits received for the extra budgetary outlays are really worth their cost.

At the beginning of the current administration, the Job Corps consisted of only two types of centers: (1) Civilian Conservation Centers (CCCs) located in rural areas, with average enrollments of about 150, and (2) the somewhat misnamed Urban Centers (UCs)—Men's Urban Centers and Women's Urban Centers—which are very large-scale operations (average enrollment of about 1,800 in fiscal year 1968) and which are located some distance from the nearest city.

One of the first OEO-related organizational changes made by the Nixon administration involved the Job Corps. The number of CCCs and UCs was cut (the CCCs drastically) in 1969. In their place it was proposed to open centers in or very close to urban areas that would draw their enrollees from the local population only.[2] The new centers are of two types: Residential Manpower Centers (RMCs) and Residential Support Centers (RSCs). The RMCs differ from the traditional Job Corps centers in that they are close to urban areas, some are coed, and their enrollees are drawn from nearby and are allowed to go home on weekends. They have nonresident as well as resident trainees and are supposed to utilize existing manpower training program facilities where possible. RMCs tend to have enrollee loads about the size of CCCs. RSCs are very small (about 30 corpsmen), dormitory-like set-ups which contain no "in-house" basic education or technical training capability. The enrollees live at the centers, but all training (except for some basic education) is done at other facilities.

Table 6 presents some information on costs, selected benefit indicators, and some enrollee characteristics by center type during fiscal year 1968, the last full year before these radical organizational changes were made. Note that CCCs, despite their much smaller size, had significantly lower costs per man-month. This suggests that negligible (or no) economies of scale occur over the large range of student-load size encompassing both CCCs and UCs. Also, the CCCs showed larger reading score gains and relative wage-rate gains than Men's UCs.

Despite this apparently favorable showing of the CCCs (at least relative to the UCs), it was argued in 1969 that they should be drastically cut back.[3] As the information in Table 7 shows, this has indeed happened. Enrollment in Civilian Conservation Centers has dropped 54 percent, while that for Men's UCs has been reduced by 30 percent and for Women's UCs by 24 percent. New centers have been opened, but they account for only 16 percent of current enrollment. The program as a whole is 27 percent smaller than it was in fiscal year 1968.

Table 6

COSTS, SELECTED BENEFIT INDICATORS AND ENROLLEE CHARACTERISTICS PER ENROLLEE, BY CENTER TYPE, FISCAL YEAR 1968

Center Type	Enrollee Characteristics			Benefit Indicators				Costs	
	Pre-JC wage rates	Years of school	Entry reading grade level	Change in reading grade level per terminee	Change in wage rate ($)	Change in wage rate (%)	Length of stay (months)	Per man-month	Per terminee
Civilian Conservation Centers	$1.41	9.1	3.5	.88	.44	31	6.3	$487	$3,069
Men's Urban Centers	1.50	9.6	6.6	.68	.45	30	5.7	582	3,320
Women's Urban Centers	1.20	10.0	6.0	.56	.36	30	6.2	603	3,736

Source: U.S. Senate, Committee on Labor and Public Welfare, *Closing of Job Corps Centers*, pp. 100, 386.

Table 7

ENROLLMENT PER CENTER AND COSTS PER MAN-MONTH
BY CENTER TYPE, FISCAL YEARS 1968 AND 1972

Center Type	Fiscal Year 1968				Fiscal Year 1972			
	Number of centers	Average total enrollees	Enrollees per center	Cost per man-month	Number of centers	Total enrollees, June 30, 1972	Enrollees per center	Cost per man-month[a]
Civilian Conservation Centers	82	12,862	157	$487	32	5,867	178	$555
Men's Urban Centers	6	10,794	1,799	582	4	7,547	1,887	517
Women's Urban Centers	17	7,432	437	603	12	5,633	433	543
Residential Manpower Centers	—	—	—	—	17	3,487	205	514
Residential Support Centers	—	—	—	—	7	172	25	570

[a] Includes transportation cost, enrollee allowances, and lease costs.

Source: The fiscal year 1968 data are from the same Hearings volume as the data in Table 6, pp. 194, 195 and 386. The recent data are from Job Corps records. Number of centers, total enrollment, and enrollment per center refer to operations on June 30, 1972. Cost per man-month comes from cost reports for all of fiscal year 1972 and average on-board strength during all of fiscal year 1972. This data and the data in Tables 8 and 12 were provided by the Job Corps Administration. Emory Bird and Mary Ann Gallagher of the Job Corps staff gave generously of their time, energy and advice in developing the data.

Table 8 compares the enrollee characteristics, various benefit indicators, and cost per man-year of new and old centers. Most of the RMCs included in this comparison were already in operation for more than nine months previous to the period covered by the data in Table 8.

The very striking difference between new and old centers is with respect to the thirty-day dropout rate. The RMCs' ability to "pre-expose" potential enrollees apparently results in fewer cases of immediate disappointment and dropout. This differential ability to minimize very short-run turnover must be offset, however, by higher turnover at the later stages. In terms of average months of stay per terminee, the RMCs are about the same as the old centers. Thus, on balance, it is not clear whether one should say that the new centers are better or worse because of this difference in length-of-stay patterns. The RMC pattern probably helps to lower overall costs per man-month, but it may work to reduce average benefits.

In terms of cost, the figures in Table 8 do not reveal large differences between RMCs and traditional centers. Given the absence of any significant amount of "dovetailing," this is not surprising; dovetailing was supposedly the major reason for believing that RMCs would prove to be less costly. A more disaggregated comparison, one that would separate out the commuters in RMCs' enrollment, would show that RMCs really have higher costs per resident man-month (including as residents both those who train on and off center) than the figure shown in Table 8. Just how much higher would depend on how one allocated the costs of the various center services between residents and nonresidents. (As residents receive more services from the program, it follows that resident costs must be higher.) It is important to stress that in seeking to determine which type of center provides Job Corps services more cheaply, one should leave nonresidents out of the comparison. It was dovetailing, not commutation, that was expected to produce the lower cost, while maintaining the basic Job Corps concept of residency.

An important issue is whether nonresidents perform as well, in terms of reading gains and post-program jobs, as residents do. The data becoming available on the performance of individual commuters should be subject to intensive analysis. We made a crude comparison between an RMC's average reading gain and the percentage of its total enrollment made up by commuters. There was no correlation. Nevertheless, multiple correlation analysis of data on individuals is required.[4]

Turning to benefits, the comparison of average reading gains per man-month by center type indicates that RMCs are behind the old

Table 8

CHARACTERISTICS OF ENROLLEES, SOME BENEFIT INDICATORS AND COST INFORMATION BY CENTER TYPE, FISCAL YEAR 1972

Center Type	Enrollee Characteristics [a]			Benefit Indicators [b]							
	% with family income < $3,000	% < 16 years old	Entry reading grade	Gain in wage rate		Reading gain		Length of service (months)	30-day dropout rate	"Completer" as % of terminees	Costs per enrollee man-month
				($)	(%)	Per terminee	Per man-month				
Civilian Conservation Centers	64.6	40.7	5.2	.58	40	.78	.16	4.9	26.2	24.7	$553
Men's Urban Centers	71.4	34.8	4.8	.41	28	1.50	.28	5.2	27.5	27.4	517
Women's Urban Centers	70.6	19.6	6.0	.49	40	.85	.14	6.1	23.9	28.2	543
Residential Manpower Centers	50.4	31.3	5.9	.35	22	.38	.07	5.4	16.7	23.5	514

[a] As of June 30, 1972, except for entry reading grades which are for April-June 1972.

[b] All indicators are for terminees during fiscal year 1972, except wage rates which are for terminees between July 1, 1970 and March 31, 1972.

[c] Includes only centers open 10 months or more.

Source: Data provided to the author by the Job Corps Administration.

centers. Whether this is a statistically significant difference is difficult to say. It is based on the flows of terminees only during fiscal year 1972. The poorer RMC reading data might be due entirely to the shorter length of time they have been in operation. Within the RMC group, however, there was no apparent correlation between the length of time in operation and reading gain across the individual RMCs. This casts some doubt on the "break-in" period hypothesis.

Evidence on Overall Program Benefits and Costs. We will first consider the evidence relating to the post-program impact of Job Corps on enrollees. We then take up the question of the cost-effectiveness of these benefits—whether they have been "worth," in some sense, the cost. We consider two ways of looking at this issue: the internal rate-of-return investment approach and the cross-specific-program comparison approach.

Job Corps Benefits. Two categories of post-program impacts on participants can be distinguished: (1) impacts on lifetime earning capacity, and (2) impacts on noneconomic attributes of the corpsmen (for example, improved job satisfaction, reduced propensity for crime and drug addiction, and improved long-run health).

Two studies have attempted to document earning capacity impact. We analyze their results in detail below. Unfortunately, we have not been able to uncover any attempt at systematic analysis of the many possible noneconomic benefits. The internal program data documenting the healthy reading score gains made by corpsmen is one source of indirect evidence relating to these types of benefits. The reading score gains appear impressive and, to the extent that their value is not fully measured in subsequent earning impacts, represent a net additional benefit of the program that should be balanced against program costs.

An interesting source of subjective evidence on noneconomic (as well as economic) effects is provided by the 1968 Louis Harris survey of relatives, friends and employers of ex-corpsmen.[5] Harris used a sample of 614 corpsmen who left the program during fiscal year 1968. They were asked for the names and addresses of older friends, relatives, or employers. From this group of 1,842 names Louis Harris succeeded in obtaining 1,179 reference interviews, mostly with older relatives. Of this number, 907 (77 percent) had known the ex-corpsmen both before and after their Job Corps experience. The Harris interviewers asked this group of 907 adults a series of questions concerning their perception of changes in the ex-corpsmen's attitudes and behavior since they were in the Job Corps. Table 9 shows a tabulation of their responses to this very broad

Table 9

RESPONSES OF REFERENCE GROUP ACCORDING TO EX-CORPSMEN'S LENGTH OF STAY AND COURSE COMPLETION RECORD

(July 1968-January 1969)

Type of Terminee the Respondent Knew							
Category	LOS (days)	Course completion	All Answers	Better (%)	Worse (%)	Not Changed (%)	Not Sure (%)
I	> 90	Yes	100	75	4	15	6
II	> 90	No	100	63	2	27	8
III	< 90	No	100	48	5	41	6

Source: Harris & Associates, "Attitudes Toward Ex-Job Corpsmen," p. 2.

question: "Generally, compared to the way (name) was before (he/she) went into the Job Corps, would you say (name) has changed for the better, changed for the worse, or don't you feel (he/she) has changed much one way or the other?"

The responses of the reference group respondents are tabulated separately according to the length of service of the corpsmen they knew. Thus category I shows the figures for those respondents who knew corpsmen who stayed in more than ninety days *and* completed their prescribed courses; category II figures are for those who knew corpsmen who stayed longer than ninety days, but did not complete a prescribed course; and category III figures are for those who knew corpsmen who terminated before ninety days. Similarly, Table 10 shows the responses of the reference group to questions about improvements in various specific areas, again tabulated by the same categories of ex-corpsmen.

In all cases the percent of favorable change rises directly with the amount and quality of participation in the program. This, of course, is a very gross comparison, and it could well be that individuals who remain longer in the program have personal characteristics that would have led them to improve more over time than the early dropouts even in the absence of the program. As noted by Harris one obvious problem is that, by definition, the individuals who stayed longer in the program will simply have had a longer time to change than the early terminees. He asserts, but does not really demonstrate, that this aging factor cannot explain much of the terminee category differential. Unfortunately, it was not possible to

Table 10

PERCEIVED SPECIFIC CHANGES BY CATEGORY OF EX-CORPSMEN KNOWN BY REFERENCE GROUP RESPONDENTS

(July 1968-January 1969)

Specific Change	Category of Ex-corpsmen Respondent Knew		
	I	II	III
Better able to make plans for his future than before	76%	70%	62%
Gets along better with people than he did before	74	69	63
Has more hope that he will be a success in the world than he had before	78	65	61
Has more positive attitude toward world around him than he had before	78	65	57
Is more concerned about the way he dresses than he was before	72	66	58
Has a better idea of what he wants to do	75	62	56
Shows more interest in doing different things in his spare time than he did before	68	62	53
Gets along with his family better than before	63	61	51
Is in better physical shape	64	56	43

Source: Harris & Associates, "Attitudes Toward Ex-Job Corpsmen," p. 15.

obtain Harris's original data tapes. A multiple regression analysis of these data is clearly called for. In such an analysis, characteristics such as age, initial reading score, race, et cetera, would be held constant, and then the length-of-stay/favorable-change perception relation examined.

Evidence on Earning Capacity Effects. It is well known that an individual's earning rate will grow over time, even in the absence of any increase in his own stock of human capital. Inflation, economy-wide productivity growth, and growth in productivity with age and experience on the job all operate to increase earning rates through time. Therefore, to isolate the net effect of the Job Corps one has to compare the pre- and post-earning rates of corpsmen with those of a "control group." Ideally, the controls would be matched with the "experimentals" in such a way that the effect of the above-mentioned

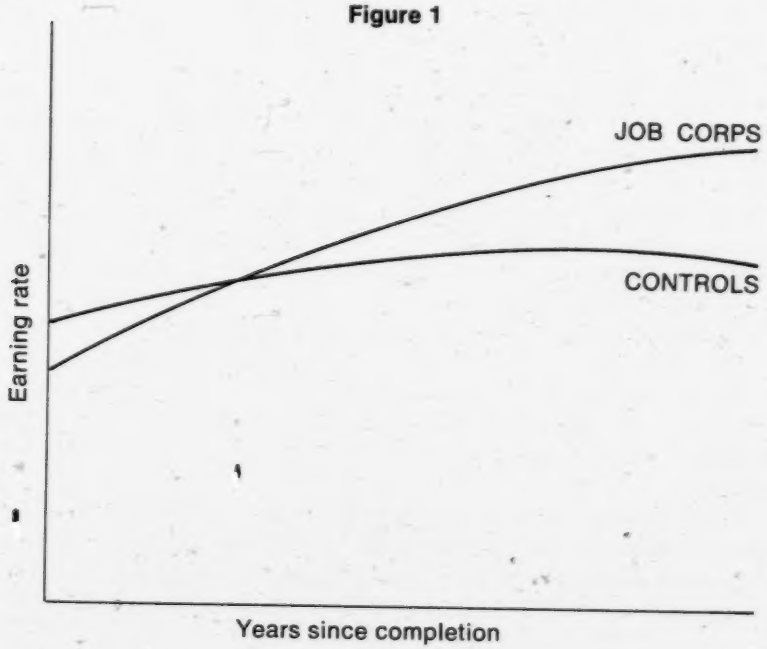
non-Job Corps factors on earnings would operate identically between the two groups.

Since the Job Corps effect may be distributed through time in a complex way, it would be useful to "track" the two groups for a long time period after program completion. Figure 1 illustrates the possible biases from not tracking for a long enough time period. Thus Job Corps experience may operate by creating entry into more "growth-type" careers, and those jobs might pay less initially than some "dead-end" jobs do.

Also, it is well known that some fraction of Job Corps terminees return to school and thus do not make full entry into the labor force until years after leaving the corps. On the other hand, however, it may well be that some of the initial job placements made right after Job Corps participation may not stick, and that in subsequent periods differences between corpsmen and controls would narrow. The moral here is that empirical data should be interpreted with care.

Two Louis Harris surveys of former corpsmen, one in 1966-1967 and the other in 1969, provide the only important source of data for isolating Job Corps effects on earning rates. The Job Corps program data on before-and-after wage rates of the terminees who are placed *within* ninety days is another, less satisfactory, source.

Figure 1



Studies by Glen Cain and the Research Management Corporation exploited the early Harris survey data which consisted of six- and eighteen-month follow-ups. The Cain study used the six-month follow-up data in which a group of no-shows were followed up as controls.[6] The Research Management study looked at the eighteen-month follow-up but had to use early program terminees as controls; the no-shows were not followed up for as long a period.[7] Both studies were excellently done from a methodological point of view—differences between controls and experimentals were minimized as much as data and statistical methods would allow.

Cain concluded that the average Job Corps terminee had his hourly wage rate raised by 12 cents (about 9 percent) on account of his Job Corps experience. If we assume that these percentage gains will hold throughout the individual's working lifetime, then we can say that the Harris survey data suggest that the average Job Corps enrollee had his lifetime earning capacity raised by about 8 percent.

We could not locate any studies that utilized the 1969 Harris survey data. Table 11 presents some of this data as it was presented by Harris in the 1969 Senate hearings on the Job Corps. Note that there is a definite relationship between length and intensity of participation in the Job Corps program and the amount of wage-rate change reported. This holds for both the six-month and the twelve-month follow-up groups. We can use this data to make our own earning-rate effect estimate if we are willing to assume that the category III terminees can serve as a useful control group—in other words, that they have the same earning-related characteristics as category I and II terminees, and that their short stay in the Job Corps has had no effect on their post-program earning rates. The higher pre-Job Corps wage rate of category III terminees tends to support this assumption; they had enrolled in the program six to twelve months after the category I and II people in the survey did, so we would expect them to report somewhat higher pre-program rates. We estimate "high side" net gains for I and II terminees by assuming that their reported pre-Job Corps earning capacity would not have changed over the time period they were in the program. ("Low side" net gain estimates assume that the post-program rates represented by category III terminees would have been available to category I and II terminees even if they had not participated in the program.)

Program data for fiscal year 1968 show that for all terminees that year, 40 percent were category I, 25 percent were category II, and 35 percent were category III. If we use these as weights to average the various net-gain figures, we estimate 13 cents and 10 cents as

Table 11

1969 HARRIS SURVEY OF FORMER JOB CORPS ENROLLEES—PRE-JOB CORPS WAGE RATE AND WAGE RATE GAINS, BY TYPE OF TERMINEE AND FOLLOW-UP GROUP

Type of Terminee [a]	6-Month Follow-Up Group				12-Month Follow-Up Group			
	Hourly wage rate before JC	Wage rate change	Net gain estimate [b] "High side"	Net gain estimate [b] "Low side"	Hourly wage rate before JC	Wage rate change	Net gain estimate [b] "High side"	Net gain estimate [b] "Low side"
Category I	$1.39	$ .48	$ .25	$ .18	$1.38	$ .53	$ .20	$ .13
Category II	1.38	.39	.16	.08	1.35	.46	.13	.03
Category III	1.46	.23	0	0	1.45	.33	0	0

[a] Category I are in more than 90 days and have completed their prescribed course.
Category II are in more than 90 days but did not "complete" a prescribed course.
Category III are those who terminated before 90 days.

[b] "High side" estimates assume that the entire difference between the wage rate change of Category III and the others is due to the program. "Low side" estimates assure that Category I and II terminees would have had the same hourly wage rate without the Job Corps as the Category III terminees.

Source: U.S. Senate, Committee on Labor and Public Welfare, *Closing of Job Corps Centers.*

"high side," and 7 cents and 6 cents as "low side" gains for the average Job Corps terminee. These absolute effects amount to a range of relative effects of about 4 to 8 percent. All in all these findings are broadly similar to those reported by students who did a more intensive analysis of the earlier Harris survey.

Thus the weight of the little available evidence appears to indicate that the Job Corps experience raises the age-earnings profile by about 6 percent for the average corpsman. It should be kept in mind that this is not the only source of post-program benefits from Job Corps; we mentioned above the various types of possible noneconomic benefits. In addition, our approach to isolating the earning effects has focused only on a long-run indicator, the hourly wage rate. There are probably short-run employment duration effects that, although they may not continue throughout working life, should be balanced against the costs of the program. The 6 percent figure is likely to be a lower bound estimate of economic benefits. Given that economic benefits are 6 percent or somewhat higher, the next question is, of course, are these benefits worth the cost?

Cost-Effectiveness of Job Corps Benefits. In terms of budgetary outlays per enrollee man-year, the Job Corps is indeed costly. In fiscal year 1971 total outlays per man-year were $6,800.[8]

Are budgetary outlays really the relevant cost concept to use in order to evaluate Job Corps benefits? A large fraction of the Job Corps outlay is for the provision of services that would have to go on even if these young persons were not enrolled in the program. Society could not stop housing, feeding, and clothing these young people simply by shutting down Job Corps centers. This idea is sometimes expressed by saying that these maintenance-type program expenditures are really "transfers" and do not represent true opportunity costs; only the resources used to produce the educational and training elements represent costs in terms of foregone output to society (including the corpsmen in the definition of society).

Table 12 presents in detail Job Corps operating cost elements for fiscal year 1971. The combination of living cost and pure training and educational elements is obvious. Less clear, however, is how to make a precise division of these costs for purposes of evaluating the cost-effectiveness of the program. What we need here essentially is an estimate of what it would cost to similarly maintain a youth in whatever alternative situation to the Job Corps was being considered. Given this figure, we would subtract it from the total cost of Job Corps and then take the remainder as representing the true cost of whatever post-program benefits the Job Corps program produces.

Table 12

TOTAL JOB CORPS PROGRAM CENTER EXPENDITURES[a] BY CATEGORY, FISCAL YEAR 1971

Expenditure Category	Expenditures Per Man-year		Percent of Total Expenditure
Enrollee expenses	$2,304		36.8
Clothing, subsistence and medical supplies		$ 841	
Educational equipment (books, pencils, etc.)		224	
Pay, allowances and allotments		933	
Other		306	
Operation maintenance and leasing of center	931		14.9
Center staff expenses	3,027		48.3
Salaries, wages and benefits		2,982	
Travel and training		45	
Total expenditures per man-year	$6,262		100

[a] This accounting of expenditures omits any treatment of expenditures connected with "work projects" (primarily at CCCs). These activities also give rise to receipts, which in fiscal year 1971 just about equaled expenditures.

Source: "Annual Report of The Fiscal Accounting Office," Division of Performance Analysis of the Job Corps Administration, 1111 18th Street, Washington, D. C.

In the absence of data on any specific alternative situations (for example, living in a large northern urban center with a family of four), the Job Corps expenditure categories themselves can provide us with at least a ball-park estimate. If we add together the entries for food, clothing, allowances, and health and recreation, we get $2,100 per man-year. The only major item not covered is housing. If we assume that it would cost $500 to house a youth for a year in most alternative situations, then we would estimate that it costs approximately $2,600 to maintain a youth for a year. Thus, for the purposes of examining the cost-effectiveness of Job Corps benefits vis-à-vis alternative approaches, one should probably use a cost figure of about $4,200 (= $6,800 − $2,600).[9]

Given an estimate of true program opportunity cost, how do we then go about using it to make rational decisions about allocating more or less resources to the Job Corps program? One way is to attempt a collapse of all the program benefits (both earning effects and noneconomic benefits) into a stream of dollar returns and relate these to program costs via standard investment criteria such as an

internal rate of return. The resulting rate of yield on investment in Job Corps can then be compared with any alternative way of investing the same amount, even as different an option as putting the money into GM stock. One major difficulty with this approach is the inability in practice to place monetary values on the nonpecuniary effects of the program. Thus, in practice, benefit-cost ratio estimates almost always restrict themselves to direct monetary benefits. Given our estimates of Job Corps earning-rate impacts we have made some rate-of-return calculations. Table 13 presents alternative estimates for different assumptions about the relevant program costs, enrollee foregone earnings, unemployment rate experience, and future productivity growth effects.

Costs are looked at in two different ways: the cost to society, including Job Corpsmen and taxpayers, and the cost to society excluding corpsmen. Under the former treatment, two alternative assumptions about the foregone earnings of enrollees are made.

Table 13 also incorporates alternative assumptions about changes in the productivity of Job Corps training. A number of researchers, most prominently Glen Cain, have asserted that it is proper to assume that the productivity of the human capital produced by the Job Corps grows at about the same rate as the economy. This is a very extreme assumption. It requires that all growth can be traced to factors other than increases in human capital (except for population growth). For illustrative purposes, however, we include rates calculated under this assumption. They are clear upper-bound estimates of the productivity of investment in the Job Corps.

The general level of the rates we calculated appears to be respectable. Even the "low-case" estimates invariably compare well with savings account yields, and they sometimes edge up near what is believed to be the rate of return to physical capital in manufacturing. Thus, Job Corps benefits would appear to be cost-effective vis-à-vis opportunities for investment in nonhuman capital generally in the economy.

A narrower and perhaps more useful comparison, however, is between Job Corps costs and benefits and those of other manpower programs that also serve (or have the potential to serve) disadvantaged youth.[10] Table 14 lists total budgetary costs and estimates of social opportunity costs (living costs and transfers netted out) for Job Corps, NYC-OOS, MDTA-Institutional and the JOBS programs.

The MDTA figure is for a skill center (prepared by the Olympus Research Corporation) which resembles a Job Corps center without

Table 13

ESTIMATES OF THE INTERNAL RATE OF RETURN ON JOB CORPS INVESTMENT [a]

Cost Assumption [b]	Constant Absolute Difference			Constant Relative Difference [c]		
	Zero unemployment	10% unemployment	20% unemployment	Zero unemployment	10% unemployment	20% unemployment
			"Low-side" Estimates [d]			
$4,200 [e]	11.80	10.57	9.33	14.78	13.55	12.31
4,800 [f]	10.27	9.17	8.06	13.24	12.15	11.03
6,800 [g]	6.98	6.15	5.29	9.94	9.11	8.24
			"High-side" Estimates [h]			
4,200	23.64	21.27	18.91	26.64	24.27	21.90
4,800	20.68	18.61	16.53	23.68	21.61	19.53
6,800	14.57	13.09	11.60	17.56	16.08	14.59

[a] Our rates of return are higher than those implicit in Cain's work. The main reason for this is that we have used more recent cost figures than he did. Since cost per man-year has been falling, this makes the program look better. However, if program effectiveness, measured in wage gains per man-year, have dropped in response to the drop in expenditure, our estimates will be too high.

[b] These are man-year costs. In the rate-of-return calculations, however, we use per-terminee costs because our gains estimates are per terminee. Since the average length of stay was 6 months in 1969, per-terminee costs amounted to about one-half per man-year costs.

[c] Assumes that absolute income gain (in constant dollars) due to Job Corps rises by 3 percent per year.

[d] Assumes a current annual gain of $112 for an employed person and a 45-year working life.

[e] Enrollees are counted as part of society, no foregone earnings.

[f] Enrollees are counted as part of society, $600 foregone earnings.

[g] Society is looked at exclusive of enrollees.

[h] Assumes a current annual gain of $223 for an employed person and a 45-year working life.

Source: Estimates by author based on cost data derived from Table 12.

Table 14

VARIOUS COST AND OUTLAY CONCEPTS PER MAN-YEAR FOR SELECTED MANPOWER PROGRAMS

(Fiscal Year 1971)

Program	Total Budgetary Outlays	Budgetary Transfer Outlays	Social Opportunity Cost [a]
Job Corps	$6,800	$2,600	$4,200
MDTA/Skill Center [b]	6,800	3,200	3,600
NYC-OOS	3,200	1,500	1,700
JOBS	3,600	n.a.	n.a.

[a] Excluding any foregone earnings of participants.

[b] The figure for skill centers does not include the cost of central program administration which is included in the list of the other programs.

Source: Job Corps data from *Annual Report of the Fiscal Accounting Office;* MDTA/skill centers estimate from the ORC study of skill centers cited above (*Manpower Development and Training Skill Centers,* pp. 5-21). NYC-OOS and JOBS figures were provided by Mr. Robert Yergen of the Office of Financial Management Information Systems, Manpower Administration, Department of Labor.

the residency feature. Thus Job Corps versus skill centers is a very interesting comparison.

The big problem here, of course, is getting *comparable* benefit measures for the *same* types of enrollees across different programs. Ideally, one would want internal rate-of-return estimates for each program for the same type of enrollee. Those are not, of course, readily available. It is tempting in this situation to try to use placement rates, which are readily available, as a comparative benefit indicator. However, one cannot use placement rates for this purpose unless he can be sure that a "placement" measures the same amount of ultimate benefit, that is, earning impact, across different programs. For programs as diverse in approach as Job Corps and NYC-OOS this would appear a shaky assumption, and we clearly need direct earning impact comparisons. Even for program treatments as similar as the Job Corps and skill centers, it would be risky to bank on placement rate differentials.

There are some follow-up control-group studies of NYC-OOS and MDTA-Institutional (pre-skill centers) that are similar to our Job Corps evidence. Most past NYC-OOS studies indicate no effect on earning rates. For MDTA-Institutional the findings for all program participants (not youths separately) also tend to show no long-run wage-rate effect. We have not been able to uncover any existing follow-up control-group study of the JOBS program.

Thus on the basis of existing studies one is tempted to conclude that the Job Corps is relatively cost-effective vis-à-vis other manpower programs for disadvantaged youth. This would imply, for example, that if there are some disadvantaged youths being served by MDTA skill centers, existing evidence suggests that it would be cost-effective to send them to the Job Corps instead. The social costs are about the same, and the likelihood of post-program benefits is much greater in the Job Corps. This simple trade-off approach must be modified somewhat in considering the NYC-OOS versus the Job Corps. This is because the level of outlay per youngster is much lower in NYC-OOS than in the Job Corps. Overall budget constraints might require a policy decision that it is better to give many disadvantaged youth a little rather than a few very much.

In any case this generally favorable finding for the Job Corps refers to a marginal decision. It does not in itself tell us whether or not the program should be expanded by 5, 10, or 50 percent. The supply of training slots must be analyzed relative to the demand for them.

The Job Corps "Universe of Need." Having demonstrated that the Job Corps appears to have a respectable rate of return, and that it compares favorably with other programs, one must still compare the size of the corps with the population it is designed to serve. There are two possible target populations: (1) all disadvantaged, out-of-school youth between sixteen and twenty-one (the relevant group if Job Corps effects are assumed to apply to somewhat less disadvantaged youth than are now included in the program), and (2) disadvantaged, out-of-school youth who stand to benefit most from a residential program because of broken homes or residence in high-crime areas (the characteristics of current Job Corps enrollees).

Recent demographic data show that there are 853,000 unmarried, out-of-school, disadvantaged youth between sixteen and twenty-one.[11] Assuming all 853,000 are targets for manpower programs, 142,000 new people enter the relevant population each year. All of these are prime Job Corps candidates under the first criterion cited above.

A slightly out-of-date study made by the Job Corps [12] developed a factor for calculating the proportion of the total needy population which is particularly suited for the Job Corps residential approach. Applying this factor to our more current data on the total population yields an estimate of about 70,000 new candidates each year. Of these 70,000 approximately 38,000 are rural residents isolated from other programs.

At its current size, with current length-of-stay behavior, the Job Corps can handle 36,000 males and 14,000 females per year. The 70,000 estimate for prime Job Corps candidates consists of 36,000 males and 34,000 females. This indicates that if expansion of the program is contemplated, it should emphasize facilities for women. Only if other youth programs are found to be less productive than the Job Corps in serving their target populations should Job Corps facilities for males be expanded. But there is evidence that prime candidates excludable only by the most stringent criteria cannot be reached because of space limitations. The gap between demand and supply becomes even greater if one considers the current length-of-stay figures as significantly below the optimum.

Implications for Policy and Future Research. The sparse evidence available indicates that the Job Corps affects positively the earning capacity of disadvantaged youth who have gone through the program. Although the magnitude of this effect may be difficult to assess with existing data, it does appear to be greater than that provided by any of the other manpower programs serving disadvantaged youth. Rather than its current image as the "stepchild" among the various youth programs, the Job Corps appears to be the most promising of the lot.

The changes in program approach that were instituted in 1969 have been carried out, but not on the scale that was promised. Old centers were closed and new centers were opened. But the absolute size of the program, on balance, is smaller now than it was in 1968. In terms of rough "universe of need" analysis, the current size of the Job Corps male program seems to be adequate, but the female program appears to be reaching only about half of the young girls it could help.

During the highly inflationary period since 1968, the Job Corps program may have suffered declines in the amount of real resources it could devote to the average enrollee. There has been a significant decline in the length of stay at CCCs, and this could be related to the resource decline.

With regard to new centers versus old centers, the overall impression one gets from the data is that the predicted cost savings and benefit improvements have not materialized. If anything, the data we have examined suggest that the burden of proof is on the new centers to show that they are not, in fact, more costly and produce fewer benefits than the original CCCs and Men's UCs.

The Job Corps program offers some unique research opportunities for uncovering useful knowledge about how to go about helping

disadvantaged young people achieve a satisfying life. Detailed follow-up behavioral studies of female Job Corps terminees should be launched with an eye toward understanding the long-run role that the Job Corps approach might play in helping with the problem of disadvantaged young girls drifting into the "welfare life style." Thus information on much more than employment experience would be needed. The study would be expensive but clearly worth the cost given the importance of the problem.

Another very useful study of the influence of reading ability on employability could be done using Job Corps data. By examining the association between reading scores and placement wages or status among terminees from a particular center, we could shed light on the interesting question of the productivity of education. This would have important implications for Job Corps and other manpower programs. It would either cast doubt on basic education as a tool for helping the disadvantaged, or support it as an important complement to vocational training. The investigation would best be done within individual centers rather than among them, in order to ensure that everyone being studied together faced the same labor market conditions.

APPENDIX

This appendix contains summaries of the eleven impact studies surveyed. For each study the source of data, statistical methodology employed, and findings are presented and critiqued. (All studies funded by the Manpower Administration can be obtained from the Manpower Administration office.)

"Determinants of Economic Success in Retraining the Unemployed: The West Virginia Experience" (Manpower Administration institutional grant to University of Wisconsin. *Journal of Human Resources*, vol. 3 (Spring 1968), pp. 139-58.)

Author. Ernst W. Stromsdorfer.

Programs Studied. Occupation-specific institutional retraining under the Area Redevelopment Act. It would appear to be pure skill-specific vocational education with no supportive or basic education elements.

Research Design. His procedure for selecting comparison groups was to obtain data on program "no-shows" and dropouts. He had data on pre-program earnings and on earnings during the eighteen-month period following program termination. He uses straightforward multiple regression techniques to standardize for differences between his trainee and nontrainee comparison groups in earnings-related factors. Overall his statistical procedures appear first rate. But for some reason (perhaps he did not have the detailed data) he does not distinguish program effects on wage rates versus employment rates.

Findings. For overall program impact Stromsdorfer finds a huge net impact on employment experience and on earnings. He does not

present wage-rate data separately, but it would appear that the entire net earnings effect is the result of an employment duration effect. In other words, during the eighteen-month period following retraining, the ratio of nontrainee/trainee *employment rates* was $\frac{48.0}{67.7} = 71$ percent while the ratio of eighteen-month average total earnings was $\frac{\$3050}{4192} = 72$ percent. Thus, there would appear to be no "wage-rate" effect.

General Comments. With no direct evidence of a wage-rate effect, Stromsdorfer may have greatly overestimated the impact of early institutional training under the Area Redevelopment Act.

"A Nationwide Evaluation of MDTA-Institutional Job Training" (Contract between National Opinion Research Center and the Manpower Administration.)

Author. Earl D. Main.

Program Coverage. Appears to be primarily the pre-skill center-type MDTA-Institutional program, i.e., primarily a specific vocational-technical course, with orientation, counseling, and basic education only in a small proportion (training took place late 1964, early 1965).

Research Design. Main had a nationwide sample of MDTA trainees and a similar comparison group. Some 1,197 previous MDTA trainees were interviewed in forty-nine sample areas. His procedure for utilizing his comparison nontrainee group was the "snowball" method. He obtained lists of names of peer-group friends from the MDTA trainees who were interviewed. From these lists he tracked down 925 comparison individuals. He also utilized 136 "no-shows" as part of his six nontrainee comparison groups. He used straightforward multiple regression techniques to standardize for differences between trainee and nontrainee groups in earnings-related factors. Overall his statistical procedures appear first rate.

Findings. After controlling for variables differing between trainees and nontrainees, no statistically significant effect of the program on weekly wages of last full-time jobs could be found. However, Main found that there was a net effect of the program in employment rates in the post-program period. MDTA training raised the percent of months employed first time by between 11 and 20 percent. Finally, however, Main found that *within* the trainee group there was no relation at all between length and type of training courses and post-program wage or employment rates.

General Comments. The no wage-rate effect finding suggests that it is perhaps the "employee search" efforts of the program, rather than the technical-vocational training per se, that is operating to produce any program impact.

Economic Benefits and Costs of Retraining Courses in Michigan (Manpower Administration Contract No. MDTA 9-63.)

Author. Michael Borus and Einer Hardin.

Program Studied. Institutional, occupationally oriented training under MDTA. It would appear that practically no "supportive" services or "basic education" treatments were used at all. This is straight and pure skill-specific vocational education.

Research Design. They used a very good stratified sample technique to obtain a sample of program participants and a comparison group. The comparison group was obtained by the "no-show" technique. They had a total of 784 individuals (503 trainees and 281 nontrainees). Overall their sampling procedures applied to data obtained appear first rate. But for some reason they do not report a straightforward (noninteraction) multiple regression in which they control for the crucial characteristics differences between their trainee and nontrainee groups. (See text discussion for the details of this omission.)

Findings. They report a significant overall program impact on annual earning capacity of $216 (10 percent). However, they also find that *within* the trainee group the size of the effect is negatively related to the length of skill training course attended.

General Comments. The findings are not reliable because of failure to report a straightforward "ceteris paribus" model.

"The Evaluation of Government Programs: The Case of New Haven's Manpower Training Activities" (Manpower Administration MDTA dissertation grant. *Yale Economic Essays*, Fall 1969, pp. 59-104.)

Author. Robert S. Goldfarb.

Program Studied. MDTA-Institutional or classroom training (1964-66): Again, this appears to be exclusively vocational-technical training. No (or very little) supportive services are involved in the program. MDTA-OJT program: Private employer "hires" the applicant (if he wants to) and is paid a "reimbursement" for costs incurred in actual training. Reimbursable expenditures are job instructor fees, materials used in training, and instructional supplies.

Research Design. Goldfarb used before-and-after training changes of wage rates and income of trainees *without* any explicit control group; thus he explicitly foregoes any attempt at precisely measuring the *amount* of the effect on earnings, and instead he focuses on demonstrating, by more circumstantial evidence, that the courses have some effect, and what precisely about the program is causing the effect. (Unfortunately in this article he presents none of his original data. It would be worth exploring some of his material.)

His qualitative literary approach is interesting, but at the same time frustrating. He does not state "how much" in terms of his indicators anywhere. His major indicator (circumstantial evidence) that wage gain was an effect of the program was pointing to the training relatedness of the job; however, for much of the training given in MDTA, employer OJT is a very good substitute.

Findings. MDTA-Institutional: His major qualitative finding is that large wage gains were obtained in cases where the primary mechanism was one of shifting a worker from a low-wage to a high-wage employer (e.g., in courses like machine operator). Job vacancy data can be a poor guide to the selection of type of training skills to offer. Evidence that work motivation and orientation might have a high payoff was developed.

MDTA-OJT: He finds absolutely no effect of the degree of time in OJT program on post-program earnings. He concludes that: "The training apparently did not result in skill acquisition which had (any) significant short-term yield." He then presents a tortured theoretical analysis of the OJT-"subsidy" program. (There could be some mileage gotten here by a sharper analyst, and in addition, a look at the program instructions would help.)

General Comments. Although methodology is "tortured and cute," and no qualitative conclusion on effects can be drawn, the thrust is clearly in the direction of supporting the notion that manpower training programs have had impacts, if at all, through employment service function, rather than any serious augmentation of human capital.

"A National Attitude Study of Trainees in MDTA-Institutional Programs" (Joint DOL-HEW-sponsored institution grant to the Survey Research Center, University of Michigan, Contract No. OS-64-47.)

Author. Gerald Gurin.

Program Studied. "Good" trainees were surveyed in a nationwide sample of MDTA-Institutional courses of more than ten weeks duration. It appears that only enrollees in straight technical, voca-

tional, education-specific programs were covered. The time period of training (fiscal year 1965) was probably pre-skill center anyway. In the words of the author, "The most qualified of the trainees in the institutional program were obtained."

Research Design. There was no nonprogram control group in this study. The purpose of this study "was to differentiate the trainees on a number of success criteria and to address ourselves to the question of why some trainees emerge as more successful than others." Measures of program success were post-program employment duration, completion rate, and class-specific ranking on post-program hourly wage rate of first jobs. Focus of independent variables was on *individual attitudes and motives* as causal factors. Also a study of the effect of "racial integration of class" was made.

Findings. The entire attempt at cause-effect analysis is seriously marred by the lack of control on pre-program wage levels. This is undoubtedly a very significant cause of post-program wage level variation, *even within a given training course.* In general, the author finds no significant association between any of his attitude variables and post-program wage levels. This is not surprising given the above-mentioned lack of control.

General Comments. Perhaps the most interesting "fall out" of this is the circumstantial evidence it presents on the probable lack of long-run program impact on earning capacity. Two important lists of data are presented. Among males, program completers and noncompleters did not differ significantly on wage-rank criteria, and only slightly in duration of employment (Table A-1).

The second list compares males with and without a training-related job (Table A-2). It reveals no difference on the wage-rank criteria, and only small difference on the employment duration criteria.

"Total Impact of Manpower Programs: A Four-City Case Study" (Final report for the period June 1968-August 1971 prepared for the Office of Evaluation, Manpower Administration, Contract No. 43-8-008-47.)

Author: Olympus Research Corporation.

Programs Covered. This study covered all the major manpower programs operating in Boston, Denver, San Francisco, and Oakland: WIN, CEP-NAP-JOBS, MDTA, INST and OJT, NYC, New Careers, et cetera. By this time skill centers had become part of the MDTA-Institutional picture.

Table A-1

POST-PROGRAM EMPLOYMENT EXPERIENCE AND RELATIVE WAGE STATUS, BY PROGRAM TERMINATION CATEGORY
(Fiscal Year 1966)

	White Males			
	Completed program	Left for job	Left voluntarily, other reasons	Dropped from program
1. *Post-program Employment*				
Employed total post-program period	68%	78%	57%	47%
Employed over half of post-program period	21	13	30	22
Employed half or less of post-program period	9	8	10	26
Not employed during post-program period	2	1	3	5
Total	100%	100%	100%	100%
Number in sample	724	128	69	58
2. *Relative Class Standing on Beginning Wage of First Post-program Job*				
Top third	31%	47%	27%	44%
Middle third	36	29	35	10
Bottom third	33	24	38	46
Total	100%	100%	100%	100%
Number in sample	751	124	71	54

Research Design. The bulk of this voluminous report consists of a detailed narrative description of the organizational structure of, and power struggles between, the various institutions delivering federally sponsored training in the four cities. In addition to this, a follow-up of a sample of program participants was attempted. They made pre- and post-wage rate comparisons, but unfortunately, did not gather information on any meaningful control group. (Their data on dropouts is not useful because of the long length of time the members of the sample stayed in the program.) Also, this before-and-after comparison, unlike all others reviewed, took place during cyclical contraction (but strong inflation was still present).

Findings. Organizational interrelations and effects: Their "total impact" approach practically assures that no single, well-defined, partial impact will be documented at all, and this appears to have

Table A-2

POST-PROGRAM EMPLOYMENT EXPERIENCE AND RELATIVE WAGE STATUS, BY RELEVANCE OF TRAINING TO POST-PROGRAM JOB

(Fiscal Year 1966)

	White Males	
	Training relevant	Training not relevant
1. *Post-program Employment*		
Employed total post-program period	74%	59%
Employed over half of post-program period	19	27
Employed half or less of post-program period	7	14
Total	100%	100%
Number in sample	599	474
2. *Relative Class Standing on Beginning Wage of First Post-program Job*		
Top third	30%	36%
Middle third	37	31
Bottom third	33	33
Total	100%	100%
Number in sample	574	441

been the case. The style is highly subjective and impressionistic, with no, or little, concern about defining objective criteria upon which to base evaluations. An organizational form was "good" because it "ran smoothly"; another organization or program was "bad" because it "had trouble getting off the ground"; and so on, page after blurry page. One must be very skeptical about any of the political-social organizational changes they suggest, e.g., to strengthen local "action" groups at the expense of the "traditional" employment service. They present no objective evidence that this will really improve program impact.

Findings of the Follow-up Survey: Their major finding is that the *wage rates* of the participants in their sample grew about 20 percent over the period covered by them during program and post-program surveys. Aside from the possibility of sloppy data handling (this may or may not have been the case—it is hard to tell from the write-up), the major problem with interpreting this finding is that

without a control-group comparison of some kind, one has no benchmark to say whether the 20 percent could be accounted for by the combined efforts of: (a) inflation, (b) growth in individual productivity with age, (c) growth in individual productivity with technical change. Over the time span of their pre- and post-comparison, which appears to be about two years, these factors might account for the bulk of the 20 percent.

"An Analysis of the Efficiency and Equity of Manpower Programs" (Dissertation submitted to Department of Economics, Georgetown University Graduate School, September 1970.)

Author. Ralph Ely Smith.

Programs Covered. MDTA-Institutional.

Research Design. The data used by the author is the published material on the pre- and post-program employment status and wage rates of those program terminees who *completed* the program. Wage-rate data is limited further to those program completers who were employed at the time of the post-follow-up questionnaire. Thus he has no information at all on program noncompleters, and has no wage-rate information on program completers who were either unemployed or out of the labor force at the time of the follow-up report. The net effect of the program on wage rates is isolated by subtracting from the observed pre- to post-change in wage rates for the above described subsets of program participants an amount equal to the percentage change in average gross hourly earnings of all nonagricultural employees. Smith also develops an interesting methodology for estimating the effect of the program on employment rates which utilizes published data on unemployment rates by age, sex, education and race categories.

General Comments. In addition to the obvious shortcoming of not having some data on all program participants, Smith's estimate of how much participants' wage rates would have grown in the absence of training (i.e., 6.8 percent) is very crude. Why the observed growth in a huge aggregate like average gross hourly earnings should agree to the wage-rate growth in some specific cohort of workers during the same period is not at all obvious. An individual's wage rate grows through time because of his own aging and experience (which tend to net out of aggregate average wage-rate figures) as well as on account of transitory and personal characteristic factors specific to this group. However, Smith does present some interesting methodological models and arguments that may serve to improve future impact studies.

"Evaluating the Impact of MDTA Programs on Earnings Under Varying Labor Market Conditions" (University of Pennsylvania, prepared for the Manpower Administration, Contract No. 83-42-71-04.)

Author. Edward Prescott and T. F. Cooley.

Program Covered. MDTA-Institutional and OJT during fiscal year 1968.

Research Design. This was a nationwide evaluation. The authors took a stratified sample of MDTA applicants during fiscal year 1968 from the enrollee master file. All in all, about 3,680 applicant records were used in the analysis. Data on pre- (1966) and post-program (1969 and 1970) annual earnings were obtained from the Social Security Administration Summary Earnings Record file. Their statistical approach utilizes a very prolix cross-tabulation method in order to save readers the difficulty of understanding multiple regression. For a no-training comparison group they utilized the information on individuals who applied for admission to the program, were s.gned up and enrolled, and then either did not show or dropped out after a few days. They had about half-and-half nonenrollees and enrollees in their sample. Prescott selected individuals from the enrollee master file such that individuals from both his enrollee and nonenrollee groups were equally distributed by four geographic labor market areas, sex, race, marital status, and occupation of training.

Findings. The pre- to post-program period change in the annual earnings of MDTA-Institutional enrollees was greater than for the nonenrollee group.

General Comments. As we mention in the text, the nonenrollee group had lower pre-program earnings than the enrolled group. Unfortunately the authors' statistical analysis did not correct the comparison for this intervening factor.

"An Analysis of Changes in Earnings of Participants in Manpower Training Programs" (internal staff paper of the Manpower Administration.)

Author. David Farber.

Program Covered. MDTA-Institutional and OJT.

Research Design. Farber utilized data on all the terminees of 1964 and 1968. He obtained annual earnings data from the Social Security Administration for the five years before and the five years after the program period. His statistical methodology was essentially the same as that of Prescott and Cooley (obtain trainee and compari-

son groups that are identically distributed by a matrix of characteristics). The comparison group was obtained from the continuous work history sample.

Findings. MDTA-Institutional training has no effect.

General Comments. See extensive discussion in the text on the drawbacks of Farber's control methodology.

"The Influence of MDTA Training on Earnings" (Manpower Evaluation Report No. 8, U.S. Department of Labor, January 1960.)

Author. This was an "in-house" study by the Manpower Administration staff.

Program Studied. MDTA-Institutional.

Research Design. The data used in this report is based on individual trainee reports, including three-, six-, and twelve-month follow-ups received through the regular MDTA reporting system by January 1967. No comparison group of nontrainees was obtained. The data is restricted to program graduates. Many potentially very important personal characteristics variables, like age and education, are not used in this study. The pre- and post-program earnings data presented are not for precisely the same people. No multiple regression statistical methodology is employed. Only two dimensional tables are presented. Complete lack of any statistical control methodology places obvious limitations on this study.

Findings. The median earnings of the sample rose from $1.44 per hour to $1.75 per hour.

General Comments. Since we do not know how much wages would have risen in the absence of training, and we do not know at all what happened to noncompleters, nothing can be concluded on the basis of this study.

"MDTA Outcomes Study Final Report" (Contract between DMI and the Manpower Administration Office of Policy, Evaluation and Research, Report No. CAL 7778.)

Author. Decision Making Information, Inc. (DMI).

Programs Studied. MDTA-Institutional and MDTA-OJT.

Research Design. Includes institutional and OJT trainees who left the programs in 1969. Both completers and dropouts were included. There were 3,461 institutional and 1,708 OJT enrollees and forty localities in the study. There was a seemingly excellent random selection, with an 83 percent contact rate. Interviews in the spring of 1971 covered about sixteen post-program months, as well as behavior six-

teen months before program participation. Overall, their data base on trainees appears to be excellent. (However, they failed to obtain data on any similar comparison group of nontrainees.) They tried to get a continuous work history sample as a control. but they failed. Also, the statistical methodology that they did apply to the data they obtained is very weak. They just compared median gains for different groups of programs. A multivariate analysis was performed but was hardly used in drawing conclusions.

Experimental Findings. They exhibit a table that shows program completers experienced much larger wage gains than noncompleters. But through the failure to do any multivariate analysis we do not know how much of this to attribute to the program, et cetera.

Overall Comments. In terms of obtaining the required data, they did not complete the study.

NOTES

NOTES TO PREFACE

[1] A reflection of this climate of opinion can be seen, for example, in Bennet Harrison, "Training for Nowhere," Outlook Section, *Washington Post*, November 19, 1972.

[2] *Special Analyses of the Budget of the United States Government, Fiscal Year 1974*, part 2-I (Washington, D. C.: U.S. Government Printing Office, 1973), pp. 119-34. See Table 1 of this study for fiscal year 1974 budget proposals with respect to specific manpower programs.

[3] Under manpower revenue sharing, state and local government officials rather than federal administrators decide the relative amounts to be allocated to the various categorical approaches.

NOTES TO SECTION I

[1] The problem here relates to the treatment of the "living costs" (that is, housing, clothing, food, medical care, et cetera) incurred by the Job Corps program. Presumably, even if the enrollee were shifted to a nonresidential program, these living costs would still have to be incurred by somebody. Indeed, given the severely disadvantaged status of many of the enrollees, the likelihood that society at large would still bear these costs is very high.

NOTES TO SECTION II

[1] Actually, the nationwide network of state-federal public employment services, which was begun long before this with the passage of the Wagner-Peyser Act in 1933, is the oldest "manpower program." Most people restrict the term manpower "program" to training and/or direct job creation of some sort. However, this does not mean that the labor exchange services of the public employment service are not an important part of manpower policy.

[2] Also authorized was the provision of "employability" and communication skills, as well as "job development." These activities essentially involve doing all that is possible to break down employee and employer attitudes that hinder employment of a disadvantaged person.

[3] For example, the "skill center" concept was implemented, and the Concentrated Employment Program (CEP) was developed from OEO and MDTA funds.

[4] Another program that evolved was the Public Service Careers program (PSC). This is essentially OJT in the public sector and is funded from MDTA appropriations.

[5] The recently announced tax credit incentive to those private employers who hire WIN program terminees is also a form of job-creation "program" (although it is tacked onto a training program). Under this credit, firms will presumably expand the total number of job vacancies available for WIN terminees.

[6] It would appear, from the language used in *Special Analyses of the Budget of the U.S. Government*, that Job Corps centers are also meant to be included as a possible option for revenue sharing funds. However, the language is not

precise on this point, and early reports from the field on what program options are being included in revenue sharing indicate that the Job Corps is being excluded.

NOTES TO SECTION III

[1] In the language of the Phillips curve analysis, we are saying that even a successful training program need not necessarily improve the "trade off" between the inflation rate and the unemployment rate. Charles Holt of the Urban Institute has been the most vigorous proponent for using manpower programs as a tool for shifting the Phillips curve.

[2] Jon H. Goldstein, *The Effectiveness of Manpower Training Programs: A Review of Research on the Impact on the Poor*, staff study prepared for the Subcommittee on Fiscal Policy, Joint Economic Committee (Washington, D. C.: Government Printing Office, 1972).

[3] In brief, the existing MDTA legislation divides the authority for implementing the institutional program, both basic education and vocational-technical training between DOL and HEW. A detailed evaluative analysis of just how this joint administration of the program has evolved over time and influenced program performance is presented below.

[4] Examples of recent studies of this variety are: "Evaluation of Manpower Development and Training Skill Centers," Olympus Research Corporation (ORC), 955 East 9th Street, South, Salt Lake City, Utah, prepared for the Office of Education, HEW, under Contract No. DEC-O-70-2807(355); "Evaluation of the MDTA-Institutional Individual Referral Program," ORC, prepared for the Manpower Administration of DOL, Contract No. 83-49-71-03 (Addendum); "A Systems Analysis of the MDTA-Institutional Training Program," North American Rockwell Information Systems Company, prepared for both DOL and HEW, Report MEL-71-10; "The Total Impact of Manpower Programs: A Four City Study," ORC, prepared for the Office of Policy, Evaluation and Research, Manpower Administration, DOL.

[5] The appendix contains study summary sheets that report and evaluate the quality of the findings in these and six other studies.

[6] Michael Borus and Einer Hardin, *Economic Benefits and Costs of Retraining Courses in Michigan*, study contracted with the Manpower Administration, Contract No. MDTA 9-63 (Lansing, Mich.: Michigan State University, School of Labor and Industrial Relations, 1969).

[7] Ralph E. Smith, "An Analysis of the Efficiency and Equity of Manpower Programs" (Ph.D. dissertation, Georgetown University, 1970).

[8] The three studies will be referred to as the Main study, the Prescott study, and the Farber study. The Main study was done by Earl D. Main, then with the National Opinion Research Center (NORC), under an evaluation contract between NORC and the Office of Policy, Evaluation and Research of the Manpower Administration. For a completely documented version see "A Nationwide Evaluation of MDTA-Institutional Training," Report 118. For a summary of findings, see "A Nationwide Evaluation of MDTA-Institutional Job Training," *Journal of Human Resources*, vol. 3 (Spring 1968), pp. 159-70.

The Prescott study was done by Edward Prescott and T. F. Cooley of the University of Pennsylvania under a contract with the Manpower Administration. For a copy refer to the Manpower Administration, Report No. MEL-73-08, Contract No. 83-42-71-04, "Evaluating the Impact of MDTA Programs on Earnings Under Varying Labor Market Conditions."

The Farber study, "An Analysis of Changes in Earnings of Participants in Manpower Training Programs," was done by David Farber of the Office of Financial and Management Information Systems (OFMIS) of the Manpower

Administration. Although it is an unpublished internal staff study of OFMIS, it has been extensively circulated throughout the manpower "establishment" in Washington, D. C. A copy can be obtained from the author on request.

[9] A discussion breaking down this annual earning effect into wage-rate and employment-rate effects is not available. Clearly, such data are highly relevant to the question of how far into the future one should extrapolate the annual earning differential. This is another shortcoming of the Borus-Hardin study—but it is secondary to the major one highlighted in the text.

[10] Jon Goldstein, *Effectiveness of Manpower Training Programs*, p. 30. Smith's study, although weak on empirical data, contains many useful methodological contributions that are not covered in the following comments.

[11] See the appendix for summaries of two studies, "The Influence of MDTA Training on Earnings" and "MDTA Outcomes Study Final Report."

[12] He ran multiple regression equations of the form:

$$Y = a + B_1X_1 + B_2X_2 + \ldots\ldots\ldots\ldots + B_nX_n,$$

where:

Y = weekly wages of last full-time job since training in one regression, and percent of the months since end of training period employed full time in another;

X_1 = a dummy variable; $X_1 = 0$ for nontrainee, and $X_1 = 1$ for trainee;

$X_2 \ldots\ldots X_n$ = measures of earning capacity determining factors other than participation in the program.

[13] Ernst Stromsdorfer has pointed out to me that one can devise a model in which programs would have long-run effects on earnings without raising observed wage rates. If wages are sticky downward at the low end of the occupational spectrum, then chronic employment instability results because a worker's marginal product is chronically below his wage. Thus, in this model a training program *could* raise long-run earning capacity and *not* increase an individual's measured wage rate. It would raise the worker's marginal productivity to equality with the sticky wage rate and thus reduce employment instability.

[14] The estimates from the SER file are very crude for individuals who earn more than the maximum taxable amount. However, for the MDTA group this is not an important factor since most of them do not earn up to the maximum during the year. For individuals who report less than the maximum taxable amount, the only estimation problem is with regard to earnings in noncovered employment.

[15] At the present time, Dr. Orley Ashenfelter, director of the Office of Evaluation, Department of Labor, is carrying out an exhaustive reanalysis of the Farber data. His findings will be available in the near future.

[16] The research and evaluation analysts in the Department of Labor are aware of these shortcomings of the Farber data and are currently studying these sources of bias.

[17] Goldstein, *Effectiveness of Manpower Training Programs*, p. 30.

[18] The GI Bill training program is administered in this fashion.

[19] For some very indirect empirical evidence, see Dave M. O'Neill, *Meeting the Navy's Needs for Technically Trained Personnel: Alternative Procurement Strategies*, Research Contribution No. 151 (Arlington, Va.: Center for Naval Analysis, 1970). This study compares costs of training electronic technicians in private and in Navy ("public") vocational-technical schools. Private school costs were considerably lower.

[20] For two dependents the supplement comes to $10 per week for every week of enrollment in training.

[21] "Manpower Training Skill Centers," *Manpower Information Service Reference File* (Washington, D. C.: The Bureau of National Affairs, Inc., 1969), P. 21:1165.

[22] Ibid.

[23] Recently a hopeful sign on the procurement front has developed. Employment service administrators are pushing the "individual referral" approach to obtaining vocational-technical training services for applicants. Under this approach the employment service purchases "slots" at private (and public) vocational-technical institutes. Single applicants can then be referred to a skill course without having to wait for a "class size" project to accumulate. This approach comes close to a GI Bill voucher-type system. However, it still leaves control of which school and the type of skill to the employment service administrators.

[24] See the article by Ralph Smith, "Apportionment of Funds Under the MDTA of 1962," *Journal of Human Resources*, vol. 3, no. 4 (Fall 1968).

[25] "Evaluation of the Effectiveness of Institutional Manpower Training in Meeting Employers Needs in Skills Shortage Occupations," Contract No. 82-43-71-03, Manpower Administration, June 1972.

[26] Actually the companies that run the centers do not at present have complete discretion in selecting occupational areas for training. They must confer with federal Job Corps administrators (located in regional Manpower Administration offices) about lists of selected occupational areas.

[27] Whether or not they would be able to undertake completely new program approaches of their own choosing is not clear from the discussions of manpower revenue sharing that I have seen. Presumably this would depend on the type of accountability procedures that are imposed on the system.

[28] David Wargo et al., "ESEA Title I: A Re-Analysis and Synthesis of Evaluation Data from FY '65-'70," American Institute for Research, Contract No. OEC-0-71-4766.

NOTES TO SECTION IV

[1] The other 40 percent of the program is mostly in centers that are run by either the Agriculture or Interior Departments under interagency agreements with the Job Corps Administration.

[2] Full administrative authority over the program has now been transferred from OEO to the Department of Labor.

[3] For the nature of the administration's position, see the testimony of George Schultz and Arnold Weber (then secretary of labor and assistant secretary for manpower, respectively) in U.S. Senate, Committee on Labor and Public Welfare, *Closing of Job Corps Centers*, Hearings before the Subcommittee on Employment, Manpower, and Poverty, 91st Congress, 1st session, on inquiry into the decision closing certain Job Corps facilities, April 15, 25, and May 2, 1969, pp. 100, 386.

[4] A careful study of the Los Angeles Women's Center by the RAND Corporation found that commuters do as well as residents. However, the two groups were so different in personal characteristics that even the use of regression techniques does not dispel all doubt about the applicability of the comparison. See Stephan J. Carroll, David H. Greenberg, and Patricia O. Katsky, *Evaluation Results for the Los Angeles Women's Job Corps Center* (Santa Monica: RAND Corporation, 1971). Further evidence on this point is still desirable.

[5] "A Study of Reference Group Attitudes Toward Ex-Job Corpsmen," Study No. 1829, January 1969, prepared for the Job Corps by Louis Harris & Associates.

[6] Glen Cain, *Benefit/Cost Estimates for Job Corps* (Madison, Wisc.: University of Wisconsin, Institute for Research on Poverty, 1967).

[7] Resources Management Corporation, "Evaluation of the War on Poverty," prepared for the General Accounting Office under Contract No. GA-650.

[8] This figure includes both actual capital expenditures and current account outlays.

[9] This assumes that the opportunity cost of the corpsman's time is zero or negligible while he is at the center. This is clearly not completely valid and we make alternative rate-of-return estimates by assuming a certain amount of foregone earnings.

[10] In some cases comparisons as broad as those implied by the internal rate of return approach are really not feasible. Thus, for example, the public may put a serious value on having young men increase their earning capacity, per se, and will not accept investment yields in nonhuman capital, that can then be "transferred," as a perfect substitute.

[11] Using the Census Bureau definition of "disadvantaged."

[12] Leon Schertler, "Issue Paper on Universe of Need," Office of Program Planning and Coordination, Job Corps Administration, Washington, D. C.

1973 PUBLICATIONS TO DATE

REVIEW—1972 SESSION OF THE CONGRESS AND INDEX OF ALL PUBLICATIONS (51 pages, $2.50)

ELECTIONS IN SOUTH VIETNAM, Howard R. Penniman (349 pages, cloth $7.50, paper $3.50)

THE BURKE-HARTKE FOREIGN TRADE AND INVESTMENT PROPOSAL (39 pages, $2.00)

U.S. IMPORT QUOTAS: COSTS AND CONSEQUENCES, Jan Monroe (85 pages, $3.00)

PUBLIC HOUSING: AN ECONOMIC EVALUATION, Richard F. Muth (61 pages, $3.00)

INCREASING THE SUPPLY OF MEDICAL PERSONNEL, Charles C. Stewart, Jr., and Corazon M. Siddayao (41 pages, $3.00)

MATCHING NEEDS AND RESOURCES: REFORMING THE FEDERAL BUDGET, Murray L. Weidenbaum, Dan Larkins, and Phillip K. Marcus (113 pages, $3.00)

STRUCTURAL REFORM OF THE FEDERAL BUDGET PROCESS, William A. Niskanen, Jr. (60 pages, $2.50)

DEATH AND TAXES: SOME PERSPECTIVES ON INHERITANCE, INEQUALITY, AND PROGRESSIVE TAXATION, Richard E. Wagner (48 pages, $2.50)

PROPOSED MINIMUM WAGE INCREASES (36 pages, $2.00)

TAX LOOPHOLES: THE LEGEND AND THE REALITY, Edgar K. Browning (61 pages, $3.00)

FARM COMMODITY PROGRAMS: AN OPPORTUNITY FOR CHANGE, D. Gale Johnson (113 pages, $3.00)

THE PRESIDENT'S TRADE REFORM PROPOSAL (58 pages, $2.00)

LEGAL SERVICES CORPORATION BILL (30 pages, $2.00)

SECTIONS 236 AND 235: AN ECONOMIC EVALUATION OF HUD'S PRINCIPAL HOUSING SUBSIDY PROGRAMS, Edgar O. Olsen, Jr. (46 pages, $2.50)

NEWSMENS PRIVILEGE LEGISLATION (41 pages, $2.00)

THE CHANGING FACE OF HONG KONG: NEW DEPARTURES IN PUBLIC POLICY, Alvin Rabushka (178 pages, $3.00)

POVERTY AND PUBLIC POLICY: WHAT SHOULD BE THE ROLE OF THE FEDERAL GOVERNMENT IN EXTENDING PUBLIC ASSISTANCE TO ALL AMERICANS? (120 pages, $3.00)

PROPOSALS TO REGULATE CONSUMER WARRANTIES AND EXPAND THE POWERS OF THE FTC (61 pages, $2.00)

HOW FULL IS FULL EMPLOYMENT? AND OTHER ESSAYS ON INTERPRETING THE UNEMPLOYMENT STATISTICS, Geoffrey H. Moore (52 pages, $2.00)

THE MARKET CONCENTRATION DOCTRINE: AN EXAMINATION OF EVIDENCE AND A DISCUSSION OF POLICY, Yale Brozen (68 pages, $2.00)

RATIONALE FOR NATO: EUROPEAN COLLECTIVE SECURITY—PAST AND FUTURE, Morton A. Kaplan (94 pages, $3.00)

THE FEDERAL GOVERNMENT AND SLUMS: PART I: A CRITICAL LOOK AT THE MOTA INSTITUTIONAL AND FOR COMPS PROGRAMS, Dave M. O'Neill (65 pages, $2.00)

VIETNAM SETTLEMENT: WHY 1973, NOT 1969, Part I: Morton Kaplan and Morton A. Kaplan; Part II: Paul C. Warnke and G. Warren Nutter; Part III: John P. Roche and Chester Ten Eyck (104 pages, $3.00)

MAJOR TAX REFORM: URGENT NECESSITY OR NOT? Charls E. Walker and Fritz J. Scott (73 pages, $3.00)

ACADEMICS, POLITICS AND THE 1972 ELECTION, Editor: Cecil Leith, Jr., and Seymour Martin Lipset (96 pages, $3.00)

Discounts: 40 percent on orders of 100 or more copies;
20 percent on orders of 10 to 99 copies.
All orders must be accompanied by payment.

THE FEDERAL GOVERNMENT AND MANPOWER: A Critical Look at the MDTA-Institutional and Job Corps Programs by Dave M. O'Neill concludes that the available evidence suggests the MDTA-Institutional program should be revamped with more reliance on the private sector for production and delivery of institutional training. In his review of eleven studies of federal manpower programs, O'Neill finds that the MDTA-Institutional program, the oldest of the federal training approaches, has apparently failed to raise the long-run earning capacity of its trainees. This program, he concludes, "has not amounted to much more than an elaborate job-finding and applicant-screening program." On the other hand, the Job Corps seems to be the program which holds the most promise for the future. O'Neill presents various reform possibilities suggested by the evidence, including voucher loans or grants for training applicants other than the hard-core disadvantaged.

Dave M. O'Neill is currently director of human resources studies at the American Enterprise Institute for Public Policy Research. He was formerly director of manpower studies at the Center for Naval Analysis, assistant professor of economics at the University of Pennsylvania, and a member of the research staff of the National Bureau of Economic Research.

$3.00

American Enterprise Institute for Public Policy Research
1150 Seventeenth Street, N.W., Washington, D. C. 20036